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### Barred by Their Brains: Inmates with Traumatic Brain Injury (TBI)

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## COMMENT

### BARRED BY THEIR BRAINS: INMATES WITH TRAUMATIC BRAIN INJURY (TBI)

CLAIRE MIKITA\*

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\* St. Mary's University School of Law, J.D., May 2021. Texas A&M University, B.A., May 2017 (Whoop!). The author extends her sincerest appreciation and gratitude to the Branigan, Johnston, and Pallotto families for their generous hearts and unwavering support in the author's personal and professional ambitions. The author thanks her twin brother, Grant Mikita, for simultaneously being the best coach and teammate to her throughout her entire life.

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The author dedicates this work to her mother, Michele Mikita, who has committed her life to “giving a voice to the voiceless” through both her role as a dedicated speech pathologist and her example as a passionate, selfless, and tenacious leader who taught the author what it means to love, serve, and advocate for what is right and just. The author recognizes there will never be enough words or actions to thank her mother for the sacrifices she has made in shaping the person the author is today, yet she is grateful to have the opportunity to spend her lifetime trying.

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## INTRODUCTION

There is a saying that many individuals will hear at some point in their lifetime: “Put on your thinking cap.”<sup>1</sup> Perhaps someone heard it in school while the teacher was pacing through the aisles of the classroom during independent study time. Maybe people have discovered the phrase in the context of planning an event or collaborating for an upcoming work project. For a traumatic brain injury patient, however, this is part of their mundane routine. These individuals must “put on their thinking cap” to relearn that shoes should match and stories are read from left to right.<sup>2</sup> Although a traumatic brain injury (TBI) is very common, many medical and education professionals are unaware of some of the difficulties

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1. *Thinking Cap*, MERRIAM-WEBSTER, <https://www.merriam-webster.com/dictionary/thinking%20cap> [<https://perma.cc/7PW7-F3YL>] (defining the phrase “put on your thinking cap,” which stems from the term “thinking cap.” Here, this phrase is defined as the “[A] state or mood in which one thinks.”).

2. See, e.g., CLARK ELLIOTT, *THE GHOST IN MY BRAIN: HOW A CONCUSSION STOLE MY LIFE AND HOW THE NEW SCIENCE OF BRAIN PLASTICITY HELPED ME GET IT BACK* (2015) (illustrating Elliot’s detailed, personal account of his brain trauma sufferings while searching for subtle clues to his brain’s organization among his neuro-developmental rehabilitation). See generally KELLY BOULDIN DARMOFAL, *101 TIPS FOR RECOVERING FROM TRAUMATIC BRAIN INJURY* (2015) (emphasizing how tasks which are deemed common to most are much more difficult for patients who suffer from traumatic brain injury. Darmofal explores these ideas and offers other advice in dealing with traumatic brain injury symptoms. Darmofal extends tips to these kinds of patients who now struggle with simple tasks as a result of their head injury); see generally MIKE DOW, *YOUR SUBCONSCIOUS BRAIN CAN CHANGE YOUR LIFE* (2019) (providing various ways to incorporate tools to retrain the brain including cognitive behavioral therapy (CBT), mindfulness, guided visualization, activating mind-body healing, and bilateral stimulation of both the brain and the body).

caused by a brain injury; consequently, many individuals suffering from a TBI do not receive the kind of educational help or support they truly need.<sup>3</sup> The brain is essential in navigating who we are, what we do, and how we behave.<sup>4</sup> That being said, it is extremely important to draw attention to the needs of incarcerated individuals with TBI so that they can function and act in a way that will best set them up as law-abiding citizens once they are released into society.<sup>5</sup> These individuals should be entitled to appropriate evaluation services, educational resources, instructional modifications to behavior, and programs to foster the most suitable conditions for a TBI patient to adjust properly.<sup>6</sup> It is necessary

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3. See generally NAT'L INFO. CTR. FOR CHILD. & YOUTH WITH DISABILITIES, *TRAUMATIC BRAIN INJURY* 5 (1999) (criticizing the level of support TBI patients receive from others in attempting to overcome the obstacles associated with their head injury). Compare CORDELIA FINE, *DELUSIONS OF GENDER: HOW OUR MINDS, SOCIETY, AND NEUROSEXISM CREATE DIFFERENCE* 3 (2010) ("Every person is a unique, multifaceted, sometimes even contradictory individual, and with such an astonishing range of personality traits within each sex, and across contexts, social class, age, experience, educational level, sexuality, and ethnicity, it would be pointless and meaningless to attempt to pigeonhole such rich complexity and variability . . ."), with ELLIOTT, *supra* note 2, at 10 ("It is not possible for us to fully understand the enormity of the changes that take place when someone suffers a traumatic brain injury . . .").

4. MARIA BERECHIN ET AL., *TRAUMATIC BRAIN INJURY AZ-TAS THEMES & ISSUES: A SERIES OF TOPICAL PAPERS ON SPECIAL EDUCATION* 1 (1993) (sharing the vital importance of the brain regarding its impact on the daily functions for a human being); see, e.g., SUZANNE O'SULLIVAN, *BRAINSTORM: DETECTIVE STORIES FROM THE WORLD OF NEUROLOGY* xiii (Yvonne E. Cardenas ed., 2018) (exploring the notion of navigating uncharted territory of the brain through the words of pathologist and neuroanatomist Santiago Ramón y Cajal: "The brain is a world consisting of a number of unexplored continents and great stretches of unknown territory."); see also DAVID M. EAGLEMAN, *INCOGNITO: THE SECRET LIVES OF THE BRAIN* 16–18 (2011) (analogizing the conscious mind as the tip of the iceberg, with a "majority of its mass hidden from sight" and navigating the depths of brain functionality); see also DANIEL G. AMEN, *MAKING A GOOD BRAIN GREAT* 147 (2005) ("Your brain creates your reality. It is not what happens to you in life that determines how you feel; it is how your brain perceives reality that makes it so.").

5. See Angela Colantonio et al., *Traumatic Brain Injury and Early Life Experiences Among Men and Women in a Prison Population*, 20 J. CORR. HEALTH CARE 271, 277 (2014) ("Overlooking a history of TBI may lead to missing a critical factor that can be addressed in correctional and medical rehabilitation and that can improve outcomes after release."); see also U.S. DEP'T HEALTH & HUM. SERVS. CTRS. FOR DISEASE CONTROL & PREVENTION, *REPORT TO CONGRESS ON TRAUMATIC BRAIN INJURY IN THE UNITED STATES: EPIDEMIOLOGY AND REHABILITATION* 22 (2015) ("Incarcerated populations are another population heavily affected by TBI. It is estimated that the prevalence of TBI in imprisoned populations is 60.3% . . . . However, how and when incarcerated populations experienced a TBI or the circumstances surrounding the injury remains unclear."); cf. O'SULLIVAN, *supra* note 4, at 256–57, 302 (emphasizing the various consequences stemming from a TBI that still remains unclear).

6. See, e.g., Colantonio et al., *supra* note 5, at 271, 277 (advocating for the education among prisoners and prison staff on TBI in order to improve not only their relationship in confinement,

for the government to put on its own thinking cap to work collaboratively toward finding the appropriate means to address these diverse and complex ends.<sup>7</sup>

## I. WHAT IS A TRAUMATIC BRAIN INJURY?

### A. *Traumatic Brain Injury Defined*

A traumatic brain injury (TBI) is defined as an injury to the brain as a result of the head being hit by something or shaken violently.<sup>8</sup> When this crucial organ becomes injured, the impact is quite unpredictable.<sup>9</sup> In

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but to ensure prisoners have adequate health services). *See generally* JOHN PRESTON & JAMES JOHNSTON, CLINICAL PSYCHOPHARMACOLOGY MADE RIDICULOUSLY SIMPLE (6th ed. 2009) (encompassing the various diagnostic guidelines and mechanisms to properly pinpoint a diagnosis and develop a realistic treatment plan).

7. *See* BRAIN INJ. ASS'N. OF AM., THE ESSENTIAL BRAIN INJURY GUIDE 2 (5th ed. 2016) (“Brain injury is a major health problem in the United States, a fact not well understood by the general public or by many health care professionals.”); *see also* EAGLEMAN, *supra* note 4, at 190 (“Brain science will improve the legal system, not impede its function.”). *Compare* O’SULLIVAN, *supra* note 4, at 302 (evaluating the severity surrounding the gaping holes in one’s knowledge about the brain and the need to answer the most basic questions that presently remain unclear), *with* Traumatic Brain Injury Reauthorization Act of 2014, 42 U.S.C. § 201 (expressing the need to face injury rehabilitation head on for those overcoming the impact of a TBI by undertaking additional activities to augment the study, surveillance, and services related to TBI). *Contra* ERIC CHUDLER & LISE A. JOHNSON, BRAIN BYTES 2 (2017) (referencing a time when the brain was not always held in highest regards or deemed important).

8. *See* Colantonio et al., *supra* note 5, at 271 (“[A]n external blow to the head is a leading cause of death and disability worldwide . . . .”); *see also* NAT’L INFO. CTR. FOR CHILD. & YOUTH WITH DISABILITIES, *supra* note 3, at 3 (providing the Individuals with Disabilities Education Act (IDEA) is the federal law which guides schools in providing special education and services related to children with disabilities. Given that “[m]ore than one million children receive brain injuries each year,” attention to TBI among youths offers insight on how a child may interact or behave with this kind type of head injury since a large number of these children have lifetime disabilities as a result of the brain injury. This earlier damage to the brain may make it harder for the individual to adopt new skills and align with the expectations of society that are associated with getting older); *see also* BRAIN INJ. ASS’N. OF AM., *supra* note 7, at 3 (“An alteration in brain function, or other evidence of brain pathology, caused by an external force.”). *See generally* SHANNON MAXWELL, BIG BOSS BRAIN 5 (2012) (offering a similar, yet more illustrative definition of TBI from a child’s perspective to guide individuals towards gaining a better understanding of the changes and possibilities following a traumatic injury).

9. *See* BERCIN ET AL., *supra* note 4, at 1 (illustrating the uncertainty in the recovery process for TBI patients); *see also* ASPEN REFERENCE GROUP, BRAIN INJURY SURVIVOR AND CAREGIVER EDUCATION MANUAL 2:27 (Sara Nell Di Lima et al. eds., 1996) (“It is very important to remember that no one really knows how far any person with brain injury may progress. . . . Recovery can continue recovery for years.”).

other words, there is no such thing as a typical TBI, because brain injuries do not discriminate.<sup>10</sup> Each person is unique, and, similarly, so is each head injury—involving a series of symptoms and impairments affecting many aspects of the injured person’s life.<sup>11</sup> Our nation’s special education law, the Individuals with Disabilities Education Act (IDEA) defines a traumatic brain injury as:

[A]n acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child’s educational performance. The term applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual, or motor abilities; psychosocial behavior; physical functions; information processing; and speech.<sup>12</sup>

Furthermore, a traumatic brain injury results from a sequence of events and includes rapid and fluctuating changes in the brain.<sup>13</sup> More specifically, the Mayo Clinic in Rochester, Minnesota, provides that a traumatic brain injury results in “rapid changes in the cytoarchitecture of the traumatized neuron.”<sup>14</sup> Traumatic brain injuries affect many people and produce many difficult psychological, medical, and social problems for those who sustain this type of injury.<sup>15</sup> Moreover, there are three

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10. See BRAIN INJ. ASS’N. OF AM., *supra* note 7, at 5 (explaining how a brain injury can happen anytime, anywhere, and to anyone); see also CONNIE GOLDSMITH, *TRAUMATIC BRAIN INJURY: FROM CONCUSSION TO COMA* 75 (2014) (“Anyone can suffer a traumatic brain injury.”). But see Colantonio et al., *supra* note 5, at 272 (clarifying while TBI affects a range of individuals in the overall population, there is an elevated rate of TBI within more vulnerable populations such as the homeless, substance abusers, and prison populations).

11. See BERECHIN ET AL., *supra* note 4, at 1 (emphasizing the unique nature of each individual patient suffering from TBI). See generally EAGLEMAN, *supra* note 4, at 3–4 (listing examples of the impediments and alterations an individual may encounter following damage to brain tissue).

12. 34 C.F.R. § 300.8(c)(12) (2019).

13. JOSEPH B. HEALY, *TRAUMATIC BRAIN INJURY HANDBOOK: HOW A NEAR-DEATH FALL LED ME TO DISCOVER A NEW CONSCIOUSNESS* 17 (2016); see BRAIN INJ. ASS’N. OF AM., *supra* note 7, at 3 (explaining one of the most common types of inertial injury—involving acceleration-deceleration forces where the brain is rapidly accelerated within the skull followed by rapid deceleration).

14. See HEALY, *supra* note 13, at 17 (notwithstanding the fact that damage occurs to the brain suddenly, the consequences of the damage are similarly not easily repairable).

15. See JANELLE BREESE BIAGIONI, *A CHANGE OF MIND: ONE FAMILY’S JOURNEY THROUGH BRAIN INJURY* 95, 162 (2004) (recognizing that a brain injury is forever and the lasting impact of TBI affects more than just the individual injured); see also, e.g., BARBARA K. LIPSKA &

different types of head injuries: mild, moderate, and severe.<sup>16</sup> A “mild” head injury involves an injury that is brief or does not experience a loss of consciousness.<sup>17</sup> Mild head injuries can include minor car accidents, sports-related injuries, falls, and blows to the head.<sup>18</sup> It is important to recognize that a mild brain injury is not commensurate to the overall consequences or damage the injured person faces.<sup>19</sup> More specifically, a mild head injury does not necessarily mean mild damage, for the results of this injury can be enough to seriously interfere with an individual’s brain function.<sup>20</sup> In fact, “[t]hese individuals often exhibit a general impairment of their ability to effectively perform normal social and academic functions.”<sup>21</sup> A “moderate” head injury is characterized by the more extended state of unconsciousness.<sup>22</sup> An individual with a moderate head injury can be in a coma lasting anywhere from fifteen

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ELAINE MCARDLE, *THE NEUROSCIENTIST WHO LOST HER MIND: MY TALE OF MADNESS AND RECOVERY* 135 (2018) (sharing anecdotal encounters with the diverse and harsh outcomes of a traumatic brain injury). *See generally* 1 RALPH M. REITAN & DEBORAH WOLFSON, *TRAUMATIC BRAIN INJURY: PATHOPHYSIOLOGY AND NEUROPSYCHOLOGICAL EVALUATION* (1986) [hereinafter *EVALUATION VOL. 1*] (illustrating the complicated and drastic long-term effects of TBIs and how the injury can change a person’s life indefinitely).

16. *See* BERECIN ET AL., *supra* note 4, at 2 (“The terms ‘mild,’ ‘moderate’ and ‘severe’ are used to clinically describe a head injury.”).

17. *Id.* (explaining that “brief” can generally be categorized as only a few minutes, yet the brevity of the injury is not a reflection of the type of damage resulting from it and its long-term effects).

18. *Id.* (illustrating the common misbelief surrounding head injuries, where it is often presumed no permanent or structural damage to the brain occurs); *cf.* *CONCUSSION* (Columbia Pictures 2015) (depicting the degenerative impact on the brain concerning sports-related head trauma through the words: “[Head trauma] turns you into someone else.”).

19. *See* 2 RALPH M. REITAN & DEBORAH WOLFSON, *TRAUMATIC BRAIN INJURY: RECOVERY AND REHABILITATION* 1 (1988) [hereinafter *RECOVERY VOL. 2*] (revealing even relatively mild closed head injuries may result in long-term pathological brain damage); *see also*, e.g., CHRISTINE HYUNG-OAK LEE, *TELL ME EVERYTHING YOU DON’T REMEMBER* 130 (2017) (“I was not aware of what I could do or not do. I had to find out, each time. I was doing things the old way out of habit and because I was still not fully aware of what had happened, because my brain had not truly assessed its own damage, and because my mind was also reeling.”).

20. *See* BERECIN ET AL., *supra* note 4, at 2 (emphasizing the significance of not succumbing to the outward appearance or structural impairment analysis of the brain; the assessment of the physical level of injury to brain does not necessarily equate to the level of damage an individual with a mild head injury experiences).

21. *Id.* at 2–3 (distinguishing how a patient with a moderate head injury may need to be treated in the emergency room and require hospitalization overnight, while a patient with a mild head injury may not require such treatments but can still show mild disability from injury).

22. *Id.* at 3.

minutes to twenty-four hours.<sup>23</sup> These types of patients are hospitalized, and they may be transferred to a rehabilitation hospital depending on the severity and extent of their physical and cognitive impairments.<sup>24</sup> With a “moderate” head injury, some level of cognitive impairment is noticeable.<sup>25</sup> “Severe” head injuries last for twenty-four hours or longer.<sup>26</sup> Individuals with a severe head injury will have more extensive physical impairments in addition to slower and more extended course of recovery.<sup>27</sup> Often, these individuals have significant and permanent damage.<sup>28</sup> In fact, about half of severely head-injured patients will require a procedure to repair or remove hematomas (ruptured blood vessels) or contusions (bruised brain tissue).<sup>29</sup>

Moreover, the National Institute of Neurological Disorders and Stroke tells us: “Anyone with signs of moderate or severe TBI should receive medical attention as soon as possible. Because little can be done to reverse the initial brain damage caused by trauma, medical personnel try to stabilize an individual with TBI and focus on preventing further injury.”<sup>30</sup>

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23. *Id.*

24. *Id.* (demonstrating the process in rehabilitating a traumatic brain injury patient where there is no one-size-fits-all patient); see, e.g., Helen M. Bramlett & W. Dalton Dietrich, *Long-Term Consequences of Traumatic Brain Injury: Current Status of Potential Mechanisms of Injury and Neurological Outcomes*, 32 J. NEUROTRAUMA 1834, 1839 (2015) (“A greater understanding of the mechanisms controlling neurogenesis and angiogenesis after TBI and strategies to promote long-term repair mechanisms represent an important strategy for protecting the brain from progressive injury and long-term cognitive problems. In this regard, specific strategies, including exercise, motor rehabilitation, growth factor or hormonal, or other proneurogenic treatments, as well as therapeutic hypothermia, may enhance neurogenesis after brain injury.”).

25. BERECIN ET AL., *supra* note 4, at 3.

26. *Id.* (defining a severe head injury through the duration of unconsciousness for the individual after the head injury).

27. See *id.* (illustrating the complicated road to recovery that individuals with severe head injuries experience because of impediments, roadblocks, and detours as a result of the damage they sustained); see also William Dane, *Brain Injury’s Impact: A Common Bond Among Caregivers*, 10 THE CHALLENGE!, no. 2, 2016, at 9 (“With a severe brain injury, a patient will likely need care around the clock, and this requires a great deal of support . . .”).

28. See BERECIN ET AL., *supra* note 4, at 1, 3 (“When this crucial organ is injured, the damage can be diffuse, resulting in a constellation of symptoms and multiple impairments affecting many aspects of one’s life.”).

29. HEALY, *supra* note 13. See generally ELLIOTT, *supra* note 2, at 13 (demonstrating how a single blow to the head can cause staggering losses of computational power to the unimaginably complex systems that make individuals human).

30. HEALY, *supra* note 13, at 14.



### B. *Damage and Deficits Resulting from TBI*

After a head injury, the residual deficits can be grouped into four categories: physical, cognitive, psychosocial, and executive.<sup>31</sup> The physical deficits are associated with the neurological damage to the brain as opposed to permanent damage to the peripheral parts of the body.<sup>32</sup> The cognitive deficits following a traumatic head injury may include many issues; these may include, “problems with arousal, attention/concentration, learning, memory, abstraction, conceptualization and/or problem solving.”<sup>33</sup> Furthermore, these deficits may be manifested in all sorts of ways:

[T]he person is unable to profit from experience; cannot abstract or conceptualize the essence or principle from the concrete details of the situation; may fail to generalize appropriately when a new situation arises; miss the point of what is being said or fail to infer the meaning assumed; may fail to grasp instinctively the implication of an event or conversation, making problem solving difficult; and may fail to think things through.<sup>34</sup>

Complicating the matter even more, it is difficult to pinpoint the stage of cognitive development when the head injury occurred.<sup>35</sup> Psychosocial impairments epitomize the statement: “Life after head injury will never

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31. BERECIN ET AL., *supra* note 4, at 6 (categorizing consequences that can result from a head injury, ranging from nonexistent to severe).

32. *See, e.g., id.* (suggesting physical deficits are beyond the scope of what the human eye can see); *see also* MAXWELL, *supra* note 8, at 5 (addressing how the term “invisible” injury is used interchangeably with traumatic brain injury); *see also* Raj Kumar et al., *Comorbid Conditions Among Adults 50 Years and Older With Traumatic Brain Injury: Examining Associations with Demographics, Healthcare Utilization, Institutionalization, and 1-Year Outcomes*, 34 J. HEAD TRAUMA REHAB. 224, 230 (2019) (promoting the care and planning for neurorehabilitation structured around the needs of TBI patients that Clark-Wilson describes as “invisible deficits”); *cf.* BRAIN INJ. ASS’N. OF AM., *supra* note 7, at 2 (labeling brain injury as a silent epidemic because the consequences are not always visibly present).

33. BERECIN ET AL., *supra* note 4, at 6. *See generally* ASPEN REFERENCE GROUP, *supra* note 9, at 2:27 (providing examples of cognitive impairments related to TBI).

34. BERECIN ET AL., *supra* note 4, at 6 (analyzing the ways cognitive deficits following a head injury relate to other problems in the TBI patient’s life); *cf.* O’SULLIVAN, *supra* note 4, at xxix (“When things go wrong that same complexity means neurological diseases often feel as if they have an almost infinite way of manifesting their symptoms.”).

35. *Cf.* BERECIN ET AL., *supra* note 4, at 6 (“Complicating this aspect of head injury is that a child may be in a critical stage of cognitive learning at the time of the injury. The effects of the head injury may interfere with his/her ability to develop higher-level thinking abilities beyond the stage of development at the time of injury.”).

be the same.”<sup>36</sup> An individual who suffers from a TBI can encounter significant changes in both their personality and behavior following their head injury.<sup>37</sup> Consequently, alterations in these kinds of aspects of one’s life may induce feelings of confusion and anxiety.<sup>38</sup> That being said, for TBI individuals, it “is critical to recognize the complex interplay between neuropsychological deficits and environmental demands, particularly with regard to how these may mitigate or exacerbate personality and behavior problems.”<sup>39</sup> Furthermore, the TBI patient’s ability to self-correct their ongoing behavior is characterized through executive function deficits.<sup>40</sup> Those who have not experienced a traumatic brain injury are more capable to regulate, evaluate, monitor, and manage their behavior; whereas TBI patients lack these abilities and show frequent impairment in these functions.<sup>41</sup>

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36. *Id.* at 7 (drawing attention to the adversarial effects accompanying a TBI in a way that harms an individual’s performance, functions, and behavior within the setting they encompass); *see, e.g.*, LEE, *supra* note 19, at 135 (“Meanwhile, I experienced plasticity in more ways than one—while my brain changed, so did my mind.”).

37. BEREKIN ET AL., *supra* note 4, at 7 (illustrating the unique expression of learning and behavioral deficits that result after a TBI).

38. *See id.* (stressing the impact a traumatic brain injury has on an individual’s psychosocial behavior and life); *see also, e.g.*, JESSICA FECHTOR, STIR: MY BROKEN BRAIN AND THE MEALS THAT BROUGHT ME HOME 66 (2015) (“What I feared was something worse: being trapped in my body, being trapped outside of my own right mind . . . .”); *see also* HILARY JACOBS HENDEL, IT’S NOT ALWAYS DEPRESSION: WORKING THE CHANGE TRIANGLE TO LISTEN TO THE BODY, DISCOVER CORE EMOTIONS, AND CONNECT TO YOUR AUTHENTIC SELF 52–53 (2018) (emphasizing the dynamic aspects of patients and their connection to the healing and emotions one faces). *Compare* GUY MCKHANN & MARILYN ALBERT, KEEP YOUR BRAIN YOUNG: THE COMPLETE GUIDE TO PHYSICAL AND EMOTIONAL HEALTH AND LONGEVITY 83–84 (1st ed. 2002) (“In the brain, specific areas produce the conscious perception of pain; they also integrate these sensations of pain with memory and emotional responses. . . . [R]esearchers have discovered that the body’s pain networks respond to pain in both positive and negative ways.”), *with* PRESTON & JOHNSTON, *supra* note 6, at 1 (suggesting an interplay between the implementation of medication and maintenance therapy tied to the etiological components of the injury to combat the effects of head trauma and brain injury rooted in both psychological and biological problems).

39. *See* BEREKIN ET AL., *supra* note 4, at 7 (illustrating an important reminder on how multiple factors contribute to a TBI patient’s ability to succeed in the environment that surrounds them).

40. *See, e.g., id.* (characterizing the lack of ability to self-correct is important in opening the doors for people with TBI to become more self-aware of their injury and their needs in best approaching their disorders or deficits that result from it).

41. *See id.* (presenting the many ways a TBI patient varies from an intact person through the ability to plan, put certain goals into action, and carry out tasks in the appropriate manner).

The complexity of this condition requires effort from a multidisciplinary team—the gamut ranging from neurosurgeons to specialists in rehabilitation.<sup>42</sup> The tailored treatment for each individual patient should include aspects of physical therapy, occupational therapy, speech pathology, physical medicine, psychiatry, psychology, and specific social support.<sup>43</sup> The consequences of a traumatic brain injury continue to progress after the injury, and, in many instances, they evolve into long-term or permanent deficits for the patient.<sup>44</sup>

### C. Diagnosing a Traumatic Brain Injury

As previously mentioned, there are both closed and open head injuries, and traumatic brain injury applies to both of them.<sup>45</sup> There is both primary and the potential for secondary damage with a TBI.<sup>46</sup> The

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42. Cf. Mark Remy, *Finding Your Flow*, TIME, Dec. 15, 2017 at 92–94 (drawing the comparison of rehabilitating one's brain to that of love, for one cannot simply wake up one day and find it; rather, it requires intense and focused concentration on creating conditions and opportunity to allow it to happen, furthering the notion that patients deserve patience when approaching progress). See generally EVALUATION VOL. 1, *supra* note 15 (illustrating concerns with the long-term effects of TBI; more specifically, this author emphasizes the need for specialists to be well-equipped and well-informed to treat and serve a full range of conditions that accompany a brain injured patient).

43. HEALY, *supra* note 13, at 14–15 (offering the various types of therapy available and how they should be used collectively to assist and enhance the positive outcomes for the traumatic brain injured patient in their recovery); see also BRAIN INJ. ASS'N. OF AM., *supra* note 7, at 12 (extending the varied nature of acquired brain injury and individual response to such injury results in a broad range of treatment requirements along what is known as a care continuum); cf. Raj Kumar et al., *supra* note 32, at 224, 230 (“Patients with TBI have unique needs that require a tailored care program.”). See generally ASPEN REFERENCE GROUP, *supra* note 9, at 4:1 (showcasing the big picture approach to holistic evaluation associated with rehabilitating a TBI in a patient-centered setting).

44. See generally EVALUATION VOL. 1, *supra* note 15 (illustrating concerns with long-term effects of TBI where the neuropsychologist is asked to perform an evaluation of the patient and develop a cognitive rehabilitation program to best fit the needs of the patient and put an end to future impediments and symptoms that could worsen the condition).

45. See BERCIN ET AL., *supra* note 4, at 1 (“[Traumatic brain injury] applies to open or closed head injuries resulting in impairments in one or more areas such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem solving; sensory; perceptual and motor abilities; psychological behavior; physical functions; information processing; and speech.”). See generally BRAIN INJ. ASS'N. OF AM., *supra* note 7, at 3 (expanding on the differences between closed and open brain injuries).

46. See generally RECOVERY VOL. 2, *supra* note 19, at 3–4 (documenting the different post-mortem studies observing the major categories of TBI in addition to the primary and secondary effects); see generally Ann C. McKee & Daniel H. Daneshvar, *The Neuropathology of Traumatic*

primary damage involves the direct damage to the brain following physical impact of the injury.<sup>47</sup> Secondary damage includes any infection, bleeding, and swelling stemming from the head trauma.<sup>48</sup> By analyzing the structural damage to the brain and its neuropsychological function, neurologic diagnostic procedures provide opportunities to assess and diagnose the traumatic brain injury.<sup>49</sup> There is no one single method or individual tool to provide a complete understanding of the TBI.<sup>50</sup> Various procedures include, but are not limited to, neurological examination, x-ray of the skull, Magnetic Resonance Imaging (MRI), and Computerized Tomography (otherwise known as a CT scan).<sup>51</sup> These types of procedures alone only provide a snapshot of the bigger picture, for these diagnostic procedures analyze the structural damage to the brain.<sup>52</sup> They do not indicate an individual's ability to function in specific settings.<sup>53</sup>

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*Brain Injury*, 127 HANDBOOK CLINICAL NEUROLOGY 45, 46–47 (2015) (discussing the primary and secondary injuries, characteristics, and outcomes for TBI patients).

47. BERCIN ET AL., *supra* note 4, at 2 (articulating how a diagnosis is formed based on the damage the brain experiences as a result of physical impact).

48. *Id.* (discussing the increased potential for long-term consequences from head trauma. In addition to the primary and secondary damages, seizures are also common following head injuries and may impact the educational performance of the injured individual throughout their lifetime).

49. *See id.* (discussing the multi-faceted approach to analyzing and diagnosing traumatic brain injuries in patients. Use of multiple forms of analysis lead to a proper diagnosis for patients with traumatic brain injury and help determine the type of treatment necessary). *See generally* RECOVERY VOL. 2, *supra* note 19 (crediting autopsy examinations for the contribution to a greater understanding of pathological changes concerning both focal and diffuse effects of head blows).

50. BERCIN ET AL., *supra* note 4, at 2; *cf.* ROBERT WINSTON, WHAT GOES ON IN MY HEAD? (Ben Morgan et al. eds., 2016) (wrapping one's head around the brain's intricate anatomy and understanding how it creates emotions, behavior, memory, and personality does not suffice to explain the indicator of a TBI and the impact following it). *See generally* GOLDSMITH, *supra* note 10 (recognizing there are multiple methods to garner a better understanding of TBI comprehensively through multiple avenues such as medications to regulate brain chemistry, counseling, and support groups).

51. BERCIN ET AL., *supra* note 4, at 2 (describing the type of neurological examinations available to those suffering from TBI to aid in the understanding of the overall impact from the head injury, and, therefore, gain greater insight into the best methods possible to approach the recovery process for the brain injured person).

52. *See id.* ("To fully understand the impact of the injury, a comprehensive, multidisciplinary evaluation which may include neuropsychological assessment should be conducted.").

53. *See id.* (emphasizing no single assessment tool can be used to provide a holistic picture of an individual's functional capacity after brain injury).

Thus, in order to understand the full effect of an injury, specialists engage in clinical neuropsychology to obtain the necessary information to better comprehend the individual's brain and its relationship with their behavior.<sup>54</sup> Clinical neuropsychology is a specialty combining the study of clinical psychology with the various elements of clinical neurology in a manner which defines, evaluates, and remediates certain cognitive and/or behavioral consequences of brain disorders.<sup>55</sup> This kind of assessment urges professionals to determine not only the status of the brain and its function, but it also serves to offer more information on the individual's strengths and needs.<sup>56</sup>

Another evidentiary tool in analyzing the best method of recovery includes the duration of the unconsciousness.<sup>57</sup> Notwithstanding the duration of unconsciousness, the consequences of the brain injury are already sustained by the time the patient is ready for discharge from the hospital.<sup>58</sup>

#### *D. Prevalence of TBI in the United States*

In the United States, traumatic brain injury (TBI) is a leading cause of death and disability among children and young adults.<sup>59</sup> Moreover, an estimated 1.5 million Americans sustain a TBI each year, and there are approximately 5.3 million men, women, and children living with a

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54. *Id.* See generally ASPEN REFERENCE GROUP, *supra* note 9, at 4:3 (noting a neuropsychologist has special expertise in brain/behavior relationships, and that they conduct a comprehensive evaluation on the patient to determine the best path forward in the patient's recovery and rehabilitation).

55. See BERECHIN ET AL., *supra* note 4, at 2 (defining clinical neuropsychology and its importance in better understanding the road to recovery for TBI patients).

56. *E.g., id.* (illustrating how essential holistic approaches are to accurate diagnosis and overall improvement of the brain, by allowing individuals to focus on their strengths during recovery and rehabilitation).

57. See HEALY, *supra* note 13, at 16 (examining the severity of the head injury in relation to the duration of time the patient was unconscious post-injury).

58. See RECOVERY VOL. 2, *supra* note 19, at 30 (recognizing the latter process of improvement following treatment in the hospital, for TBI fosters long-term recovery periods without much of a biological basis to draw from).

59. U.S. DEP'T HEALTH & HUM. SERVS., TRAUMATIC BRAIN INJURY IN THE U.S.: A REPORT TO CONGRESS 1 (Dec. 1999) [hereinafter TRAUMATIC BRAIN INJURY IN THE U.S.], [https://www.cdc.gov/traumaticbraininjury/pdf/TBI\\_in\\_the\\_US.pdf](https://www.cdc.gov/traumaticbraininjury/pdf/TBI_in_the_US.pdf) [https://perma.cc/Z4E2-QX88].

permanent TBI-related disability today.<sup>60</sup> While the risk of having a TBI is substantial among all age groups, this risk is highest among adolescents, young adults, and persons older than seventy-five years.<sup>61</sup> The risk of TBI among males is twice the risk among females.<sup>62</sup> According to the World Health Organization, traumatic brain injuries will serve as the main global cause of death and handicap by the year 2020.<sup>63</sup> It is quite concerning that a condition that affects so many globally is typically overlooked.<sup>64</sup> Notwithstanding a lack of comprehensive understanding of the prevalence of sequellae and the lifetime prevalence of TBI, the prevalence of those currently living with a traumatic brain injury is significant.<sup>65</sup> In fact, some use the term “invisible handicap” to address the issue of underestimating the cognitive and behavioral impact a traumatic brain injury has on the injured person’s life.<sup>66</sup>

Traumatic brain injury can lead to an impairment in emotional self-regulation, cognitive functions, and impulse controls.<sup>67</sup> While there are

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60. NAT’L CTR. FOR INJ. PREVENTION & CONTROL, THE REPORT TO CONGRESS ON MILD TRAUMATIC BRAIN INJURY IN THE UNITED STATES: STEPS TO PREVENT A SERIOUS PUBLIC HEALTH PROBLEM 1 (2003) (breaking down the hospitalization rate, death rate, and long-term disability rate resulting from TB); TRAUMATIC BRAIN INJURY IN THE U.S., *supra* note 59, at 1 (showing the risk of having a TBI is substantial among all age groups; however, adolescents are more prone to lifelong debilitating effects resulting from traumatic brain injury).

61. BRAIN INJ. ASS’N. OF AM., *supra* note 7, at 5–7.

62. TRAUMATIC BRAIN INJURY IN THE U.S., *supra* note 59.

63. E. Durand et al., *History of Traumatic Brain Injury in Prison Populations: A Systematic Review*, 60 ANNALS OF PHYSICAL & REHAB. MED. 95, 95 (2017) (“[TBI] lead to greater levels of deficiency, longer hospitalizations, and higher hospitalization costs than any other injuries.”); Colantonio et al., *supra* note 5, at 271. *But see* Edith N. Botchway et al., *A Systematic Review of Sleep-Wake Disturbances in Childhood Traumatic Brain Injury: Relationship with Fatigue, Depression, and Quality of Life*, 34 J. HEAD TRAUMA REHAB. 241, 241 (2019) (“Traumatic brain injury (TBI) is anticipated to be a leading cause of death and disability worldwide by the year 2030.”).

64. *See* BRAIN INJ. ASS’N. OF AM., *supra* note 7, at 2–3 (affirming there is a: (1) lack of knowledge met with little awareness or understanding about brain injury, (2) failure to properly diagnose or identify TBI, and (3) inconsistent access to pertinent procedures and rehabilitative programs).

65. *See generally* Durand et al., *supra* note 63, at 95 (suggesting even though our understanding of traumatic brain injuries is limited, the pervasiveness of the injury itself is quite substantial in the United States and around the world).

66. *Id.* at 96 (“Long-term TBI sequellae, especially cognitive and behavioural, are not well known and often underestimated so that a term often used is that of an *invisible handicap*.”).

67. *See id.* (“These are thought to be occur alongside behavioural disorders, such as aggressiveness, loss of inhibition, intolerance toward frustration, and sometimes violent acts that can be limiting for social integration.”); *see, e.g.*, LIPSKA & MCARDLE, *supra* note 15, at 141 (“That

programs and treatment in place to support victims of traumatic brain injury, there are many behavioral changes that follow a traumatic brain injury that have yet to be fully supported in all spheres of the patients' lives.<sup>68</sup> For example, many men and women who serve this country come back home with invisible wounds and suffer from a TBI.<sup>69</sup> Despite the laws in place, there remains a compelling need for improved methods of care for those who experience a traumatic brain injury.<sup>70</sup>

## II. ASSESSMENT OF TBI IN PRISON INMATES

In the United States, many individuals in prison are suffering from some form of treatable mental disorder.<sup>71</sup> For TBI patients, the impact of their injury depends on the nature and extent of the injury, the location of the damage, and the severity of the problems associated with the

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loss of control makes me angry. My extreme reaction to sensory overload is common in people with brain trauma . . .").

68. See, e.g., *Traumatic Brain Injury Research*, U.S. DEP'T VETERAN AFFS. (Apr. 2017), <https://www.hsrd.research.va.gov/news/feature/tbi0417.cfm> [<https://perma.cc/XMW8-BZYY>] ("Even mild TBI can have far-reaching impact, with symptoms ranging from headaches, irritability, and sleep disorders to memory problems, slower thinking, and depression. Many of these symptoms can lead to long-term mental and physical health problems that affect Veterans' employment and family relationships, and may negatively impact their reintegration into their communities.").

69. Cf. *id.* ("Worldwide, more than 350,00 service members have been diagnosed with TBI in some form since 2000. . . . Traumatic brain injury (TBI)—recognized as a signature wound of the conflicts in Iraq and Afghanistan—often occurs in combination with multiple health conditions that require coordinated, individualized, comprehensive medical and psychosocial treatment across the continuum of care.").

70. See *Research to Advance the Care of Traumatic Brain Injury*, VETERANS HEALTH ADMIN. RSCH. & DEV. (Apr. 2017) <https://www.research.va.gov/resources/pubs/docs/tbi-brochure.pdf> [<https://perma.cc/P7WY-C5S2>] (depicting the way the Veterans Affairs (VA) rates residuals of traumatic brain injury. The VA focuses on the classification of the traumatic brain injury made at, or close to, the time of the injury, rather than the severity of the current symptoms). Compare Franklin D. Roosevelt, State of the Union Message to Congress (Jan. 11, 1944) (declaring all Americans "have the right to adequate medical care and the opportunity to achieve and enjoy good health"), with Senator Barack Obama, Second Presidential Debate at Belmont University in Nashville, TN (Oct. 7, 2008) ("I think [health care] should be a right for every American."). But cf. ALLEN BUCHANAN, JUSTICE AND HEALTH CARE: SELECTED ESSAYS 229 (2009) (arguing health is not a human right, but still of critical moral importance because it is necessary for the enjoyment of human rights. Therefore, advocating for human rights without making a commitment to effective maintenance of health is morally incoherent).

71. See OXFORD UNIVERSITY PRESS, FORENSIC MENTAL HEALTH CONCEPTS, SYSTEMS, AND PRACTICE 153 (Annie Bartlett & Gill McGauley eds., 2010) (illustrating the pervasiveness of mentally disordered offenders and the forensic psychotherapeutic approaches associated with these medical models).

injury.<sup>72</sup> Thus, traumatic brain injured persons introduce diverse neurological manifestations which may eventually develop enough psychopathology to lead them to become violent criminals.<sup>73</sup>

More specifically, traumatic brain injury creates neuropsychological defects and affects structural brain integrity, making it an important factor to consider regarding *mens rea*.<sup>74</sup> Psychiatric manifestations of traumatic brain injuries include neuroses which are presented in the form of suicidal thoughts, homicidal behavior, and depression.<sup>75</sup>

There are a startling number of convicts who have a history of TBI; however, neither they—nor law enforcement—knows it.<sup>76</sup> In recent decades, the interplay between brain disorders and criminal behavior suggests traumatic brain injury as the common denominator.<sup>77</sup> The brain

72. See Fernando G. Diaz, *Traumatic Brain Injury and Criminal Behaviour*, 14 MED. & L. 131, 133, 137 (1995) (evaluating the relevant association of traumatic brain injury with the commission of a crime).

73. *Id.* at 137–38 (discussing the impact of traumatic brain injury on criminal behavior including the difficulty in separating behavior attributable to injury versus drug and alcohol use and how difficult it is to show mental incapacity due to injury in criminal behavior).

74. See *id.* at 131 (discussing the way a traumatic brain injury affects an ultimate issue of criminality); compare HENDEL, *supra* note 38, at 170 (emphasizing the role empathy plays in our daily lives. “Empathy prevents us from committing acts against humanity . . .”), with EAGLEMAN, *supra* note 4, at 187 (demonstrating the myth of human equality with a legal system built on the premise that humans are all equal before the law by providing: “This built-in myth of human equality suggests that all people are equally capable of decision making, impulse control, and comprehending consequences.”). But see *Roper v. Simmons*, 543 U.S. 551, 568 (2005) (holding those under the age of eighteen would not be given the death penalty; similarly, TBI brains are different, they do not succumb to the same level of reasoning and understanding as other humans).

75. Marcelo Schwarzbald et al., *Psychiatric Disorders and Traumatic Brain Injury*, 4 NEUROPSYCHIATRIC DISEASE & TREATMENT 797, 806 (2008); cf. STEVEN C. HAYES & SPENCER SMITH, *GET OUT OF YOUR MIND & INTO YOUR LIFE: THE NEW ACCEPTANCE & COMMITMENT THERAPY* 4 (2005) (deeming the ubiquity of human suffering as common for all persons). *Contra* ELLIOT, *supra* note 2, at 70 (“[O]ne of the most troubling aspects of TBI, and one that we have to at least suspect is significant contributor to the reported increase in the suicide rate[s] among those . . . with concussions . . .”). See generally REHABILITATION FOR TRAUMATIC BRAIN INJURY (Walter M. High et al. eds., Oxford Univ. Press Inc. 2005) (detailing how traumatic brain injury forces persons to succumb to impairments in awareness, memory, executive functioning, communication, emotion, and behavior).

76. Erika Hayasaki, *Brains Behind Bars*, NEWSWEEK, July 8, 2016, at 26, 27–33 <https://www.pressreader.com/usa/newsweek/20160708/282093456051067> [<https://perma.cc/927G-NJT6>] (exploring the disparities of treatment among traumatic brain injured patients and other prison inmates and expounding the data of three separate studies which found inmate populations to consistently have eighty percent or more suffering from moderate or severe brain trauma).

77. See *id.* (suggesting a link between traumatic brain injury and criminality—thus, drawing one’s attention to the importance of better understanding the impact of TBI on the individuals of



engenders the mind, all thoughts and emotions, and impels individuals to any and all action; therefore, even mild brain injuries can significantly disrupt the lives of those affected by them.<sup>78</sup>

A systematic review offers an update on the current knowledge related to the history of TBI in prison populations.<sup>79</sup> Despite the limitations of existing studies, they each reach the overall conclusion that a history of TBI is frequent among prisoners.<sup>80</sup> For example, a study in the United States established the rate of TBI of various severities in a representative sample of adult offenders and patterns of custody associated with TBI.<sup>81</sup> Of the 453 offenders surveyed, 196 (43%) responded.<sup>82</sup> Over 60% reported “Head Injuries.”<sup>83</sup> Reports consistent with TBI of various severities were given by 65%.<sup>84</sup> Of the overall sample, 16% had

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the community); cf. BRAIN INJ. ASS'N. OF AM., *supra* note 7, at 11 (“There is an increasing awareness that a high proportion of the 2 million people currently in U.S. prisons have a brain injury that is not necessarily recognized, diagnosed, or treated.”).

78. Hayasaki, *supra* note 76, at 26, 27–33 (detailing an assessment by Kristi Wall, a doctoral student from the University of Denver who conducted jail evaluations. Kristi describes the situation of Sarah Romero, a 19-year-old inmate who spent three years in an abusive relationship before she was locked up for stealing a “bait car.” This ex-boyfriend knocked her out at least three times, hitting her in the head or face, often blindsiding her upon entry into their residence. Romero demonstrated impaired cognitive skills in her testing. Sadly, Romero’s story is not surprising; referring to a 2003 study in the *American Journal of Obstetrics & Gynecology* which found that 67 percent of women referred to sexual assault-domestic violence clinics reported symptoms of head injuries caused by abuse). Compare ELLIOTT, *supra* note 2, at 264–265 (offering the frustration accompanying the performance of simple tasks from the focal lens of an individual that has been disrupted by TBI), with Bradley Ray & Nicholas J. Richardson, *Traumatic Brain Injury and Recidivism Among Returning Inmates*, 44 CRIM. JUST. & BEHAV. 472, 472 (2017) (drawing attention to the disruptions to the normal function of the brain as a result of TBI).

79. See Durand et al., *supra* note 63, at 95, 99 (affirming selected studies which stated 46% of prison settings had a history of TBI).

80. See *id.* (discussing the validity of the surveys carried out in this literature regarding the prevalence of a history of TBI in the prison setting); see also Ray & Richardson, *supra* note 78, at 472 (“[T]he rate of TBI in the general population is estimated to be at about 8.5% while studies of offending populations have found rates between 25% and 87%.”).

81. See W. Huw Williams et al., *Self-Reported Traumatic Brain Injury in Male Young Offenders: A Risk Factor for Re-Offending, Poor Mental Health and Violence*, 20 NEUROPSYCHOLOGICAL REHAB. 801, 806 (2010) (“Of the total reported head injuries, . . . 77.69% . . . participants described the origins of their injuries as being directly related to offending.”).

82. *Id.* at 801.

83. *Id.*

84. *Id.* at 807.

experienced moderate-to-severe TBI and 48% mild TBI.<sup>85</sup> Adults with TBI were younger at entry into custodial systems and reported higher rates of repeat offending.<sup>86</sup> In addition, these adults reported greater time, in the past five years, spent in prison.<sup>87</sup> Therefore, findings such as these indicate the need to account for TBI in the assessment and management of offenders.<sup>88</sup> Responses to a questionnaire of a prison population in New Zealand indicated that 86.4% of the 118 respondents had sustained a TBI.<sup>89</sup> These outcomes represent more than just statistics to a study; this is a grave issue among prison populations.<sup>90</sup>

### III. PRISONS ARE FAILING TBI PATIENTS

The prison system overlooks traumatic brain injury in prison populations, allowing society to scapegoat certain categories of crime and criminals as monsters decreases the likelihood that individuals will respond appropriately and rationally to the conduct of these brain injured individuals.<sup>91</sup> This encourages individuals to take on the legal role to sort out the most dangerous individuals for preventive “treatment” as opposed to carceral “punishment.”<sup>92</sup> Prison staff communication with a health care professional team about physical limitations, neurological status, behavior patterns, cognitive recovery, and continuing

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85. *Id.* at 808 (reporting documented levels of mild to severe TBI and repeat injury consistent with data from studies with adult prisoners).

86. *Id.* at 803, 806.

87. *Id.* at 801.

88. *Id.* at 809.

89. Tracey V. Barnfield & Janet M. Leathem, *Incidence and Outcomes of Traumatic Brain Injury and Substance Abuse in a New Zealand Prison Population*, 12 *BRAIN INJ.* 455 (1998) (comparing the number of offenders with TBI across the globe indicates that this issue is not localized in the United States).

90. *Cf.* Williams et al., *supra* note 81, at 810 (“TBI is a major, chronic, health condition within the young offender population. This study highlights the need for a focus on adolescence as a key period for injury and entry into custodial systems. With better integration of neuropsychological assessments and rehabilitative approaches into planning of rehabilitation of young offenders there may be better outcomes for them, and for society.”).

91. *See* JOHN DOUARD & PAMELA D. SCHULTZ, *MONSTROUS CRIMES AND THE FAILURE OF FORENSIC PSYCHIATRY* 10, 53 (2013) (illustrating the detrimental impact presented when treating inmates with mental disorders as worthy of dehumanization); *cf.* Colantonio et al., *supra* note 5, at 277 (advocating for the recognition and management of TBI by law enforcement and correctional facilities through education).

92. *See* DOUARD & SCHULTZ, *supra* note 91, at 53 (distinguishing the difference between treatment and punishment).

rehabilitative needs is necessary in providing the proper prison environment for individuals who have suffered a traumatic brain injury.<sup>93</sup>

Following a traumatic brain injury, there are practical guidelines for prognostication that should be evaluated.<sup>94</sup> In addition, an assessment of decision-making capacity is essential to the type of community integration is possible for the traumatic brain injured patient.<sup>95</sup> Prisons fail to address rehabilitation, community reintegration, management of associated impairments, and post-injury outcomes for inmates with TBI.<sup>96</sup>

#### IV. BEST WAYS TO REHABILITATE TBI PATIENTS

*The presence of traumatic brain injuries should affect the way we treat incarcerated offenders.*<sup>97</sup>

While the government and taxpayers typically do not jump at the opportunity to invest money in criminals, it is essential to understand the value and positive benefits for the community altogether when work is done to ameliorate the battered brains of the incarcerated.<sup>98</sup> Ultimately, society would best be served if these individuals are given the appropriate rehabilitation relative to their conditions stemming from the traumatic brain injury.<sup>99</sup>

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93. See Durand et al., *supra* note 63, at 95, 100 (explaining the necessity to consider the multiple factors to address the rehabilitative needs of someone who has suffered from a traumatic brain injury).

94. See, e.g., HEALY, *supra* note 13, at 69 (supplying an example of practical guidelines one can implement into their daily routine to combat the detrimental outcomes of TBI).

95. See generally FELISE S. ZOLLMAN, MANUAL OF TRAUMATIC BRAIN INJURY: ASSESSMENT AND MANAGEMENT (2d ed. 2016) (providing an analysis of the many topics relevant to the diagnosis, treatment, and long-term management of individuals with traumatic brain injuries).

96. See generally *id.* (explaining how to best treat patients with traumatic brain injuries with an informative view of the disorder).

97. Christopher Zoukis, *Exploring the Connection Between Brain Injuries and Criminal Behavior*, PRISON LEGAL NEWS (June 9, 2017), <https://www.prisonlegalnews.org/news/2017/jun/9/exploring-connection-between-brain-injuries-and-criminal-behavior/> [https://perma.cc/WC C2-4PH8].

98. See Hayasaki, *supra* note 76, at 26, 27–33 (explaining the benefits to supporting TBI inmates notwithstanding the cost or resources it would require).

99. See *id.* (emphasizing how rehabilitation should not be confused as an agenda to overturn convictions and pointing out that no one is suggesting that criminal behavior be excused “with a

## V. TBI PATIENT'S BRAIN BEHIND BARS

A traumatic brain injury behind bars can cause several different issues.<sup>100</sup> For example, an inmate with a TBI may have attention deficits that make it difficult to not only focus on a required task but may impede the communication needed to respond to a correctional officer's instructions.<sup>101</sup> In either scenario, a TBI inmate's intentions could be misinterpreted and result in an incorrect representation or leave an impression of deliberate defiance on the part of the prisoner.<sup>102</sup>

Additionally, memory deficits stem from TBI which can also make it difficult to recall or follow rules and directions given; this may also result in disciplinary actions by prison staff.<sup>103</sup> Irritability can be difficult to control and can lead to an incident resulting in either injury to the person or others in the correctional facility.<sup>104</sup> Someone who suffers from a traumatic brain injury may have significantly altered speech and language.<sup>105</sup> Their slower verbal responses and physical responses could

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magic wand" because rehabilitation does not disappear. However, certain methods for treating individuals with traumatic brain injury should).

100. See, e.g., CTRS. FOR DISEASE CONTROL & PREVENTION, TRAUMATIC BRAIN INJURY IN PRISONS AND JAILS: AN UNRECOGNIZED PROBLEM 2 (2007), [https://www.cdc.gov/traumatic-braininjury/pdf/Prisoner\\_TBI\\_Prof-a.pdf](https://www.cdc.gov/traumatic-braininjury/pdf/Prisoner_TBI_Prof-a.pdf) [<https://perma.cc/CS3H-PL44>] [hereinafter TBI IN PRISONS AND JAILS] ("A TBI may cause many different problems: . . . Irritability or anger might be difficult to control and can lead to an incidents[; [s]lowed verbal and physical responses may be interpreted by correctional officers as uncooperative behavior[; and u]nhibited or impulsive behavior including problems controlling anger and unacceptable sexual behavior, may provoke other prisoners or result in disciplinary action by jail or prison staff.").

101. See *id.* (expounding on the various problems and issues which may arise between inmates and correctional officers when the inmate has suffered from a TBI. With slower reaction times and difficulty focusing on tasks at hand, inmates with TBI are more likely to suffer negative repercussions and disciplinary actions while incarcerated).

102. See *id.* (stressing the need for deeper understanding of traumatic brain injuries and their impacts on daily cognitive functions, especially in the criminal justice system where perceived defiance may result in disciplinary action by the jail).

103. See *id.* (reiterating the impact and permanent changes individuals with TBI face. In order to facilitate better communication between inmates with TBI and corrections officers, there must first be an understanding of how broadly individuals' interpersonal skills and cognitive skills may be impaired by TBI).

104. See *id.* (noting irritability and difficulty with anger issues is only exacerbated by incarceration without any help or treatment to control these emotions. Without help, inmates with TBI are more prone to disciplinary issues while incarcerated and a cycle of disciplinary action forms that could be avoided with the proper treatment).

105. *Id.* (referring to the impact on cognitive skills such as speech and language that a TBI may alter significantly. These alterations may lead to issues and disciplinary actions taken against an inmate through no fault of their own. Care must be exercised to evaluate each inmate to

be deemed as uncooperative behavior by correctional officers.<sup>106</sup> Prisoners with a TBI also experience mental health problems such as severe anxiety and depression, substance use disorder, uninhibited or impulsive behavior that leads to difficulty controlling anger, and suicidal thoughts or attempts.<sup>107</sup>

Many people in jails and prison populations are living with TBI-related issues that complicate their management and treatment during incarceration.<sup>108</sup> Since most prisoners are eventually released, it is necessary to implement ways to eliminate some of these problems.<sup>109</sup> Otherwise, it will pose greater challenges when they return to the community.<sup>110</sup> A recent report from the Commission on Safety and Abuse in America's Prisons suggests a greater number of health screenings, evaluations, and treatment for inmates suffering from TBI.<sup>111</sup> In addition, experts on TBI and prison officials have recommended routine screenings of inmates to better identify the history of the traumatic brain injury; screening inmates with TBI for possible substance or alcohol abuse and providing the proper treatment for these conditions; and additional evaluations to target specific TBI-related problems with an intentional focus on impulsive behavior, sexual behavior, and suicide risk if the inmate is depressed.<sup>112</sup>

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determine if they are suffering from a TBI and how best to treat them for the betterment of themselves and society as a whole).

106. *Id.*

107. *Id.* at 1 (stressing how far-reaching the effects of TBI and describing how there is a noticeable shift occurring towards helping individuals recognize that they have a TBI).

108. See BRAIN INJ. ASS'N. OF AM., THE ESSENTIAL BRAIN INJURY GUIDE 11 (5th ed. 2016) ("Rates of brain injuries in inmate populations far exceed rates of the general population.").

109. See, e.g., *Madrid v. Gomez*, 889 F. Supp. 1146, 1256–59 (N.D. Cal. 1995) (holding the use of solitary confinement for mentally ill prisoners to be unconstitutional; therefore, it is necessary for prison officials to ensure all prisoners are screened for mental disorders at intake).

110. Cf. BRAIN INJ. ASS'N. OF AM., *supra* note 108, at 7 (stressing the immense burden and residual impacts of TBI on individuals; it is noted that individuals who do not receive the proper care for their TBI issues will be disproportionately impacted over those who are not incarcerated and have access to mental health and TBI specialists).

111. TBI IN PRISONS AND JAILS, *supra* note 100, at 2.

112. *Id.*; see BRAIN INJ. ASS'N. OF AM., *supra* note 108, at 11 (explaining how screening for a brain injury can prevent unnecessary individual hardships, such as preventing or treating depression associated with the loss of abilities and ensuing frustration); see also, e.g., DANIEL G. AMEN, MAKING A GOOD BRAIN GREAT 147 (2005) (amplifying the internal destruction of TBI through the statement by John Milton: "The mind is its own place, and itself can make a heaven of hell, a hell of heaven.").

If there is a lack of treatment and rehabilitation for persons with substance abuse and mental health problems while incarcerated, it will increase the likelihood that alcohol and/or drugs will continue to be abused when released.<sup>113</sup> Systematic failure to provide treatment can then lead to homelessness, a return to illegal activities, re-arrest, and increased risk of death.<sup>114</sup> From a utilitarian perspective, it is in society's best interest to develop better methods for identifying inmates with TBI and addressing the problems related to those living with such an injury.<sup>115</sup>

Staff members should be trained to identify a history of TBI in inmates and have access to consult with other professionals who are experts in TBI.<sup>116</sup> For released individuals returning to their communities, transition services should be offered to accommodate the problems stemming from a TBI.<sup>117</sup> Lastly, released persons with TBI and mental health and/or substance abuse problems should receive case management services and assistance regarding placement into community treatment programs.<sup>118</sup>

In order to ensure successful community reintegration, we must shed light on the epidemiology of TBI among prisoners and aim to offer all the necessary resources and implementation of TBI-specific

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113. See TBI IN PRISONS AND JAILS, *supra* note 100, at 2.

114. *Id.*

115. See SANDFORD H. KADISH ET AL., CRIMINAL LAW AND ITS PROCESSES 97–99 (2017) (addressing the utilitarian view on punishment); see also Guyora Binder & Nicholas J. Smith, *Framed: Utilitarianism and Punishment of the Innocent*, 32 RUTGERS L. J. 115, 211 (2000) (“Utilitarian penology is not organized around the goal of maximizing deterrence or minimizing crime. It is organized around the goal of maximizing utility, which chiefly depends on creating a democratically controlled, procedurally regular, transparent, formalistic, bureaucratically rational process of governance.”).

116. TBI IN PRISONS AND JAILS, *supra* note 100, at 2. See generally BRAIN INJ. ASS'N. OF AM., *supra* note 108, at 11–12 (“A thorough patient history of previous brain injury is especially important . . . . Such practice facilitates the ability to associate prior brain injury with any persistent symptoms so that appropriate rehabilitation services and supports can be provided.”).

117. TBI IN PRISONS AND JAILS, *supra* note 100, at 2; cf. 29 U.S.C. § 723 (2014) (expanding and listing services available to individuals with a wide variety of conditions to help obtain and secure opportunities that promote success and independence).

118. TBI IN PRISONS AND JAILS, *supra* note 100, at 2 (proposing ideas to reduce the likelihood of reincarceration of persons with TBI who also suffer from substance abuse issues); cf. BRAIN INJ. ASS'N. OF AM., *supra* note 108, at 11 (providing there is significantly higher substance use among prisoners with one or more brain injuries).

interventions.<sup>119</sup> This provides a more effective management and rehabilitation for inmates with TBI.<sup>120</sup> Correction officials may have little to no understanding of the potential significance of TBI within their inmate populations.<sup>121</sup> Therefore, this could be a good starting point for creating a dialogue about dissemination of knowledge regarding TBI and screenings to better understand these inmates and create the safest and healthiest environment for both the inmates and correction officers.<sup>122</sup> Educating criminal justice professionals is helpful toward improving treatment or management that takes into account the cognitive issues that interfere with the potential of inmates with TBI to succumb to the rehabilitation programs designed for persons without TBI.<sup>123</sup>

#### A. *Inconsistent Legal Outcomes for TBI Patients*

Currently, there is no set standard or criteria on how each court chooses to analyze brain data and neurological assessments of defendants; thus, the outcomes for these individuals vary drastically.<sup>124</sup>

#### B. *TBI Crimes: Monsters in Our Minds*

While aggression after a traumatic brain injury is common, it is not well-defined.<sup>125</sup> Anger and agitation are possible problems after a brain injury, but it is significant to recognize that there is a difference between this sort of behavior and the kind that suggests someone with a TBI

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119. BRAIN INJ. ASS'N. OF AM., *supra* note 108, at 11–12.

120. *See generally* ASPEN REFERENCE GROUP, BRAIN INJURY SURVIVOR AND CAREGIVER EDUCATION MANUAL (Sara Nell Di Lima et al. eds., 1996) (offering tools and effective maintenance therapy strategies including goals for rehabilitation).

121. TBI IN PRISONS AND JAILS, *supra* note 100, at 2 (emphasizing the difficulties an individual with a TBI may encounter while incarcerated).

122. *Cf. id.* at 1–2 (showcasing findings and recommendations from a safety report on the significant impact TBI screenings and treatments can have for inmates).

123. *See* Ray & Richardson, *supra* note 78, at 473, 483 (2017) (stressing the importance of early detection of TBI in inmates to place them in appropriate programs for their specific needs and potentially prevent reincarceration); *see also* BRAIN INJ. ASS'N. OF AM., *supra* note 108, at 20 (addressing the need for correctional officers to be well-informed about the status of the condition for TBI inmates).

124. *See generally* BRAIN INJ. ASS'N. OF AM., *supra* note 108, at 18–19 (providing the research to set a standard approach for understanding and facilitating rehabilitative methods associated with improved TBI).

125. *See id.* at 23 (recognizing the lack of uniformity when it comes to understanding TBI's psychosocial complications); *see, e.g.*, ASPEN REFERENCE GROUP, *supra* note 120 (listing commonly experienced behavioral changes after a TBI which includes aggression).

cannot exercise any control over their conduct whatsoever.<sup>126</sup> However, these individuals are deemed monsters—supported by a metaphorical dehumanization that impose a detrimental narrative for TBI patients struggling to overcome their medical obstacles.<sup>127</sup>

Metaphors are indeed important to augment and deepen our understanding of the world around us.<sup>128</sup> This metaphor, where TBI patients are beasts barred by their brains, is harmful rhetoric.<sup>129</sup> Daily functioning for a TBI patient can be very dangerous; this does not necessarily make a TBI patient dangerous to society.<sup>130</sup> This monster metaphor carries implications for social responses to conduct deemed evil.<sup>131</sup> Moreover, this monster narrative holds both moral and legal consequences in the way that it frames individuals who suffer from TBI.<sup>132</sup>

When the inferential patterns being drawn from this monstrous metaphor is paired with a monstrous crime, the reactions to such crimes by the criminal justice system and mental health institutions is indicative of the strategies designed to protect others from TBI patients and exclude them from a community of “normal” people rather than properly rehabilitate.<sup>133</sup> Bearing the burden of our social anomie, society is focused more on forming social solidarity—where human beings are

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126. See JANELLE BREESE BIAGIONI, *A CHANGE OF MIND: ONE FAMILY’S JOURNEY THROUGH BRAIN INJURY* 95 (2004) (illustrating extreme ends, mentioning, “[h]is moods continually shifted from one extreme to the other.”).

127. See generally DOUARD & SCHULTZ, *supra* note 91, at 1–3 (introducing the consequences stemming from the monster metaphor).

128. *Id.* at 6 (analyzing the foundational role of metaphors in understanding subjective interpretations of life experiences).

129. *Id.* at 2 (“When we use the metaphor of the monster or predator to represent human beings, we devalue human beings; we ‘dehumanize them’ . . .”).

130. *Id.* at 9 (portraying the difficulty faced by mental health experts in court if a criminal with a TBI is labeled dangerous and how these preconceived notions can result in their removal from society).

131. *Id.* at 7 (condemning the use of the word “monster” to refer to criminals, as it further excludes those persons from society).

132. *Id.* at 10 (“The qualities of fear, threat, horror, and disgust that accompany the metaphor of monstrosity are intense, but it is the way in which the monster is used in banal terms as a source of media framing, public policy, and law that affects us on a daily basis.”).

133. *Id.* at 9 (“[S]capegoating people by framing them as monsters decreases the likelihood we will respond rationally to conduct that frightens us.”).



being scapegoated and framed to be scary species.<sup>134</sup> Consequently, this directly impacts the ability to respond rationally to behavior that frightens and brings further meaning to the disparity of treatment among TBI patients in prison populations.<sup>135</sup> TBI victims who have committed bad acts cling to their innate humanity that has been disrupted by moral panic and the illustrative metaphor that serves to treat them as anything other than being that: a human.<sup>136</sup> When used as a metaphor, the “monster” fosters a cognitive basis for people to team up against the so-called dangerous outsider.<sup>137</sup> This perpetuates prodigious portent notions about someone with a TBI then possibly establishes and reinforces it in their life, rather than receiving appropriate rehabilitation.<sup>138</sup> Thus, social deviance is structured to fit the role of the monster, resulting in terrifying outcomes.<sup>139</sup>

An ethical quandary has grown even more serious in relation to the objectivity through which neuroscience presents its data about a monstrous brain.<sup>140</sup> In the legal sphere, psychiatrists have a moral and epistemic obligation to provide the courts and juries with facts about and details associated with behavior stemming from invisible illnesses such as TBI.<sup>141</sup> Often, however, these forensic psychiatrists abandon the ethical principles which shape the profession of medicine altogether.<sup>142</sup>

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134. *Id.* at 8 (“Thus, a metaphor of the witch-hunt has a normative force that carries implication for social responses to conduct perceived as evil people identified . . .”).

135. *Id.* at 2 (“It is the purpose of this book to explain why such dehumanization is neither morally supportable . . . nor, from a public health point of view, compatible with our standard health policies.”).

136. *See generally id.* at 9 (illustrating how quickly the monster reference can transform a person guilty of a crime into an unhuman being with no morals).

137. *Id.* at 1 (“[By dehumanizing these individuals, we] thereby reduc[e] cognitive dissonance when we deprive them of the rights to which they would be entitled if they were regarded as fully human.”).

138. *Id.* at 9 (“Only a public health approach will shift the framework . . . to treat[] them as human being who pose risks, but nonetheless have rights . . .”).

139. *See* Angela Colantonio et al., *Traumatic Brain Injury and Early Life Experiences Among Men and Women in a Prison Population*, 20 J. CORR. HEALTH CARE 271, 277 (2014) (“[S]tudies have shown a lack of understanding and misconceptions about TBI among the general, clinical, and correctional health care professionals.”).

140. DOUARD & SCHULTZ, *supra* note 91, at 9.

141. *Id.* at 138–39; *cf.* OXFORD UNIVERSITY PRESS, *supra* note 71, at 131 (highlighting the feelings of dread and fear in therapists and how psychological treatment programs typically exclude those with mental disorders in the criminal justice system).

142. *See generally* DOUARD & SCHULTZ, *supra* note 91, at 139 (“The aims of the law and the aims of clinical psychiatry are generally assumed to be quite different. The Law’s proper aim

Medical ethics—at its core—intends to do no harm.<sup>143</sup> Consequently, though, people who suffer from these kinds of illnesses are inevitably harmed when psychiatrists testify that criminal defendants or respondents in civil commitment hearings are not capable of controlling their conduct if released to the community.<sup>144</sup> This precludes proper rehabilitation by suggesting the individual lacks the ability to receive the appropriate support for their condition.<sup>145</sup>

Neither judges nor psychiatrists want the public to fear they are relaxing the standards to protect society and its members.<sup>146</sup> Emotions triggered outside the courtroom ultimately shape the legal and ethical constraints of the courtroom in this context, for although psychiatrists have arcane scientific knowledge not accessible to lay persons, widespread moral panic creates an opportunity for these professionals to keep engaging in unethical practices that focus more on punishment and removing these presumptively scary monsters from society, rather than opening their minds to the various symptoms and outcomes that can be visualized or localized.<sup>147</sup>

Contrary to popular belief, a psychiatric diagnosis is highly subjective and, most times, unscientific.<sup>148</sup> Health professionals often disagree

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is justice . . . . More broadly, the goal of the law is to preserve social order, and its truth seeking function is integral to preserving social order . . . . Preservation of social order is no part of psychiatry's aim. The difference in aims entails that practitioners operate under different, and often competing, ethical frameworks . . . .").

143. *See id.* at 136 ("The heart of medical ethics is the injunction to do no harm. But forensic psychiatrists inevitably harm some people who are mentally ill.").

144. *See id.* at 135 ("[R]elaxed forensic psychiatric ethics are a product, in part, of the moral panic that imagines [the mentally ill] as monsters. Widespread moral panic opens a space for forensic psychiatrists to engage unethical gun-for-hire practices with little or no public outcry, so long as [those with mental instabilities] are punished and removed from society.").

145. *See id.* at 136 ("For this reason, forensic psychiatrists often refuse to evaluate their own patients, but it does not follow that forensic psychiatrists are thereby morally off the hook. The injunction to do no harm does not mean simply to do no harm to people they have formally accepted as patients. From a medical point of view, . . . psychiatrists have a duty to not harm *anyone* in their role as health care professionals.").

146. *See id.* at 143 ("[T]he duty to promote justice, would be apparent virtually every time a forensic psychiatrist testified.").

147. *Id.*

148. *Id.* at 140, 144–45 ("The job of a forensic psychiatrist is to administer tests and score risk assessment instruments . . . and to testify about the defendant's" mental status. Thus, because many are hired for one side or another of a legal battle, there is an incentive to testify to please their employers).

about the labels assigned to a given patient.<sup>149</sup> It is necessary to recognize that individuals struggling with TBI are more than just a diagnosis.<sup>150</sup> They are humans—persons with various backgrounds, experiences, and situations which have grave consequences surrounding their brain injury.<sup>151</sup> Recent developments in neuroscience are the leading source for knowledge of the brain's causal contributions to dangerous and deviant behavior, but it is difficult for one to fully wrap their head around the impact of a head injury.<sup>152</sup>

The monster is everywhere, because it is built off a rhetoric where those who are misunderstood are immediately dismissed or deemed the dangerous outsider without putting together the whole story.<sup>153</sup> These assumptions lead others to jump to conclusions.<sup>154</sup> Like little children frantically screaming about the monster under their bed, public outcry has heavily influenced the way we treat individuals with an invisible illness.<sup>155</sup> This is not to say there are not any dust bunnies under the bed; certainly, there is some cleaning and improving that needs to be done.<sup>156</sup>

However, an egalitarian response to social order must be invoked to include *everyone*—refusing to exclude criminals or deviants just because they intimidate, scare, or make others feel uncomfortable.<sup>157</sup>

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149. *Id.* at 137–38.

150. *Cf. id.* at 144 (noting subjects of psychiatric evaluation have needs, desires, interests, goals, and experiences that shape their conduct).

151. *See id.* (“If the forensic psychiatrist is to understand the meaning that an act has for the subject of a forensic interview, the psychiatrist must place that conduct in the narrative context of the interviewee’s life.”).

152. *Cf. id.* at 137 (While the psychiatric community has attempted to put psychiatry on a scientific foundation with the editions of the diagnostic and statistical manual . . . [i]t is only a taxonomy. While a set of diagnostic categories is certainly a pre-condition of empirically grounded scientific psychiatry, it is not a sufficient a condition of a scientific account of mental disorders.”).

153. *See id.* at 59 (“When used as a metaphor, the monster provides the cognitive basis for solidarity against the dangerous outsider.”).

154. *Cf. id.* at 43–46 (“[S]cience, media, and law all contribute to ‘making people up.’”).

155. *See id.* at 69 (discussing the misconception of the “monster” and the fears portrayed by the media and legislators to the public).

156. *Cf. id.* at 163 (suggesting that well-designed communities should eliminate dark spaces that provide hiding places for offenders).

157. *Id.* at 59 (suggesting we lose our modernist sentimental attachments to old social forms when creating new social order).

Society has become so titillated by the “monsters,” people will do anything to exclude them.<sup>158</sup> This is not a fairytale, though.<sup>159</sup> Slaying one monster does not guarantee us all a happily ever after.<sup>160</sup> It requires a deeper analysis of the disastrous struggle for those suffering from trauma and the practical tools necessary to combat the illness they are fighting.<sup>161</sup> As humans, we are all socially encumbered in some way.<sup>162</sup> So, it is important to direct our attention to the aspects we should share in common in creating new forms of social life.<sup>163</sup>

Symbolically, the monster emphasizes the dichotomy between good and evil.<sup>164</sup> The monster metaphor establishes and reinforces norms of conduct despite apparent ambiguity in the face of what constitutes normal.<sup>165</sup> More specifically, the “modern discourse of statistical

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158. *Id.* at 52–53.

159. *Id.* at 64–66 (recounting the theme of Sophocles’ *Oedipus the King* to illustrate the concept of scapegoats and the functions they play in giving a voice to that which is unspeakable).

160. *See generally id.* at 64 (providing statistics concerning recidivism rates for offenders after their release).

161. *See* Chandra Bozelko, *Traumatic Brain Injury Should be a Factor When Judging Individuals Accused of Crimes*, STAT NEWS (Dec. 7, 2017), <https://www.statnews.com/2017/12/07/traumatic-brain-injury-crime> [<https://perma.cc/MM36-5ZVS>] (reporting the rate of traumatic brain injuries among prisoners to be about seven times higher than the general population and how “it’s time to consider” the risks associated with someone who has sustained a head injury); *see also* Dixie Fremont-Smith Coskie, *TBI Ten Years Later: A Mother’s Story*, BRAIN LINE (Feb. 28, 2011) <https://www.brainline.org/story/tbi-ten-years-later-mothers-story-continues> [<https://perma.cc/HG68-U96B>] (describing one mother’s realization that the outcome of each TBI is unique and depends on factors including the specific circumstances, the severity of the injury, the immediate and long-term medical care, rehabilitation services, and the individual patient and family. “The long-term impact that TBI imposes on the injured person, family members, and friends is unthinkable. The nightmare of TBI relives itself day after day, month after month, and year after year.”).

162. *See* DOUARD & SCHULTZ, *supra* note 91, at 52 (implying we wouldn’t necessarily want to know what the average monster looks like, because we’d have to acknowledge they look a lot like us).

163. *See id.* at 59 (asserting the monster in humanity should be embraced as our commonality).

164. *See id.* at 66 (“When order is threatened or undermined, identifying a source of pollution—such as a monster or predator—may be used to fashion a morality play of good versus evil.”).

165. *See id.* at 52–53 (“We exploit that ambiguity when we use the monster metaphor in order to mark a boundary between members of a community and those we deem ‘other.’”); *see, e.g.*, CLARK ELLIOTT, *THE GHOST IN MY BRAIN: HOW A CONCUSSION STOLE MY LIFE AND HOW THE NEW SCIENCE OF BRAIN PLASTICITY HELPED ME GET IT BACK* 71 (2015) (“The person we have always known is strangely missing. This feeling is so pervasive among the concussives I’ve met over the years that it has become a standard private joke: *Welcome to life in exile. Welcome to life among the nonhuman.*”).

concepts of both a social norm and normalization provided a conceptual framework for regulating conduct while framing the insider/outsider distinction strictly in metaphorical terms.”<sup>166</sup> Health professionals aim to treat and diagnose behavior or conditions outside of functional organization.<sup>167</sup> In fact, the cornerstone of medical practice is to measure deviations from normal function to foster greater individual and societal stability.<sup>168</sup> Sometimes the weight behind various aspects are ignored when things become imbalanced.<sup>169</sup> Instead, when people are immediately framed as monsters, we fail to recognize they also become targets of discriminatory, retributive policies.<sup>170</sup>

## VI. PUTTING OUR HEADS TOGETHER TO COMBAT THE ISSUE

Currently, the U.S. government supports a number of research studies pertaining to traumatic brain injury.<sup>171</sup> These studies are then tracked by the Office of Extramural Research at the National Institutes of Health.<sup>172</sup> While a variety of research relates to traumatic brain injury, there is presently a lack of sufficient knowledge or information regarding the presumed causal connection between TBI and criminals.<sup>173</sup> In fact, the typical kind of research involving TBI only explores the consequences of

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166. DOUARD & SCHULTZ, *supra* note 91, at 60 (clarifying how metaphors, such as the “monster” metaphor, work to split insider and outsider behavior).

167. *Id.*

168. *See id.* (emphasizing the importance of examining departures from normal behaviors and using that to foster a more inclusive environment).

169. *Cf. id.* at 61 (presenting the concept of how people oftentimes disregard a multitude of certain factors when someone does something supposedly monstrous).

170. *See id.* (“When [individuals with mental illnesses] are framed as monsters, we hardly notice that they are also targets of discriminatory, retributive policies.”).

171. *See* U.S. DEP’T HEALTH & HUM. SERVS., TRAUMATIC BRAIN INJURY IN THE U.S.: A REPORT TO CONGRESS 5 (Dec. 1999), [https://www.cdc.gov/traumaticbraininjury/pdf/TBI\\_in\\_the\\_US.pdf](https://www.cdc.gov/traumaticbraininjury/pdf/TBI_in_the_US.pdf) [<https://perma.cc/Z4E2-QX88>] (referring to the programs promoted by the CDC in 1989 with the focus of better understanding brain trauma); *see also* *Traumatic Brain Injury Research*, U.S. DEP’T VETERAN AFFS. (Apr. 2017), <https://www.hsrd.research.va.gov/news/feature/tbi0417.cfm> [<https://perma.cc/XMW8-BZYY>] (addressing federally funded studies and findings that show there is a growing need of long-term care for veterans with traumatic brain injuries).

172. *See* BRAIN INJ. ASS’N. OF AM., *supra* note 108, at 18 (discussing the TBI Act of 1996 and the effectiveness of research surrounding it to achieve improvement of care for TBI individuals).

173. *See generally id.* (discussing the difficulties of undetected brain injuries and how they cause complications with criminal rehabilitation).

simulated models and animals through the potential neuronal damage.<sup>174</sup> However, there is not enough attention to the social and psychological impact pervasive amongst these individuals.<sup>175</sup> Additionally, targeted therapies for persons suffering from TBI are insufficient.<sup>176</sup> While therapeutic strategies do exist and can augment function for TBI individuals, there remains a significant need for improved methods of care.<sup>177</sup>

Moreover, traumatic brain injury constitutes a major health and socio-economic problem across the globe, accounting for roughly one-third of trauma deaths and for a much larger proportion of life-long disability following the head trauma.<sup>178</sup> Notwithstanding enthusiasm generated from pre-clinical investigations and of trials on new therapies for reducing secondary brain damage and improving outcome, it would be a gross understatement to say the results have been extremely disappointing.<sup>179</sup> These abysmal results fail to provide convincing evidence of efficacy in the overall population of TBI.<sup>180</sup> Inaccuracies and issues in clinical trial design and analysis, specific to the field of TBI,

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174. See, e.g., GUY MCKHANN & MARILYN ALBERT, *KEEP YOUR BRAIN YOUNG: THE COMPLETE GUIDE TO PHYSICAL AND EMOTIONAL HEALTH AND LONGEVITY* 154 (1st ed. 2002) (“Many pharmaceutical companies are competing to develop drugs that will alter how the brain responds to such an injury, including head injury, stroke, and lack of oxygen to the brain. Several drugs have been developed that are quite effective in experimental animals and are now being tried in people.”).

175. See generally WESLEY R. COLE & JASON M. BAILIE, *NEUROCOGNITIVE AND PSYCHIATRIC SYMPTOMS FOLLOWING MILD TRAUMATIC BRIAN INJURY*, in *TRANSLATIONAL RESEARCH IN TRAUMATIC BRAIN INJUR*, (Daniel T. Laskowitz & Gerald Grant eds., 2016) (“Studies on this topic continue to overcome methodological issues and account for confounding situational (e.g., secondary gain), social psychological, and medical comorbidities that have limited previous work in this area.”).

176. *BRAIN INJ. ASS’N. OF AM.*, *supra* note 108, at 12–13 (“Progressions through the continuum [of treatments] and utilization are dependent upon a number of factors . . .”).

177. See generally *id.* (drawing attention to a continuum of treatments for individuals with TBI).

178. C.S. Allely, *Prevalence and Assessment of Traumatic Brain Injury in Prison Inmates: A Systematic PRISMA Review*, 30 *BRAIN INJ.* 1161 (2016).

179. See, e.g., ZOLLMAN, *supra* note 95, at 14 (pointing to the sophisticated and complex nature of the secondary injury and the need for complex data analytics and systematic approaches).

180. See *BRAIN INJ. ASS’N. OF AM.*, *supra* note 108, at 19–23 (referring to the inability to pinpoint a solution to TBI due to the cascading issues that follow the initial brain injury, thus making the injury that much more difficult to treat).

have contributed to this failure.<sup>181</sup> Addressing these problems requires a multidisciplinary effort involving expertise from the fields of clinical research, biostatistics and epidemiology.<sup>182</sup> There needs to be an international collaboration to better understand the public health crisis behind TBI.<sup>183</sup>

## VII. MIND OVER MATTER, AND TBI MATTERS

TBI patients who are incarcerated should follow methods similar to those of an individualized education plan.<sup>184</sup> More specifically, it should model the concept of the Individualized Education Program (IEP), which addresses the importance of discovering as much as one can about the injury and needs of TBI youth in education; instead of IEP, it could be called an “IRP,” or Individualized Rehabilitative Plan.<sup>185</sup> Following a head injury, it is more realistic to approach the TBI patient with the notion of improvement rather than recovery.<sup>186</sup> The term “recovery” can be very misleading, for most individuals perceive that someone dealing with an injury or illness will gradually return to an expectation of

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181. See William H. Blackwell & Zachary S. Rosetti, *The Development of Individualized Education Programs: Where Have We Been and Where Should We Go Now?*, SAGE OPEN, Apr.–June 2014, at 1, 11 (listing findings and implications governing Individualized Education Programs and noting there is a need for continued research after multiple studies reported various concerns).

182. See generally Andrew I. R. Mass et al., *Traumatic brain injury: integrated approaches to improve prevention, clinical care, and research*, 16 LANCET NEUROLOGY COMM’N 987, (“The diversity and complexity of the consequences of TBI are best addressed with a comprehensive, holistic approach to rehabilitation delivered by a specialized multidisciplinary team . . .”).

183. See NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE, TRAUMATIC BRAIN INJURY HOPE THROUGH RESEARCH 27 (2020) (detailing the international collaboration already taking place between the National Institute of Neurological Disorders and Stroke and European Commission with the goal of increasing resources that supports international research for TBI).

184. Cf. Blackwell & Rosetti, *supra* note 181, at 1–2 (referring to the existence of policies and regulations implemented by the Disabilities Education Improvement Act to make effective process for students that could be utilized for the rehabilitation of inmates who suffer from TBI).

185. See, e.g., NAT’L INFO. CTR. FOR CHILD. & YOUTH WITH DISABILITIES, TRAUMATIC BRAIN INJURY 5 (1999) (drawing attention to the IEP that is utilized for students in school to help them progress despite their TBI and how that concept could be replicated to assist inmates).

186. MARIA BERCIN ET AL., TRAUMATIC BRAIN INJURY AZ-TAS THEMES & ISSUES: A SERIES OF TOPICAL PAPERS ON SPECIAL EDUCATION 6 (1993) (“Following head injury, each student displays a unique pattern of improvement that is often variable and unpredictable, characterized by major gains often interspersed with periods of apparently little change.”).

normalcy.<sup>187</sup> Normalcy itself is a very subjective term, but the attachment of eventual normalcy to the prognosis of a TBI patient can result in feelings of frustration, denial, disappointment, and incredibly unrealistic expectations of the person with a head injury.<sup>188</sup>

The brain is one's essence—establishing who they are.<sup>189</sup> More specifically, “[t]he brain is our totality.”<sup>190</sup> Something that, on average, encompasses about two percent of a person's body weight while simultaneously accounting for almost all of a person's individual peculiarities, performance, abilities, and efforts.<sup>191</sup>

It is important to note that the IEP is a flexible plan, it can be altered as the parents, the school, and the student learn more about what the student needs to succeed at school.<sup>192</sup> Also, the IEP recognizes that as the child develops, parents and children may notice new problems, for as the child grows, their brain is used in new and different ways.<sup>193</sup> Similarly, the age of the inmate should be considered in constructing a plan to maximize their ability to perform tasks, understand directions, and reduce potential distractions.<sup>194</sup> Through an IEP, teachers and school faculty are urged to detect and discover as much information as they can regarding the child's brain damage and their needs associated with it, give the student ample time to complete schoolwork, assignments, and tests, give directions one step at a time, be patient and show the student the

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187. See BERECIN ET AL., *supra* note 186, at 6 (delineating the detrimental impact when assuming or creating false expectations of normalcy for the TBI patient).

188. *Id.*

189. JOSEPH B. HEALY, TRAUMATIC BRAIN INJURY HANDBOOK: HOW A NEAR-DEATH FALL LED ME TO DISCOVER A NEW CONSCIOUSNESS 13 (2016) (recognizing the brain as a mass of nerve tissue that has a massive impact on how individuals think, act, and behave).

190. *Id.* (reminding the reader of the significance of the brain and the functions it serves to make a possibility for all humans).

191. *Id.* (emphasizing how something so small can have such large, detrimental consequences if injured).

192. See, e.g., NAT'L INFO. CTR. FOR CHILD. & YOUTH WITH DISABILITIES, *supra* note 185, at 5 (suggesting flexibility not only in the strategic elements of the specialized student plan itself, but also in understanding the necessity for flexibility in the students' needs altogether).

193. See *id.* (illustrating the response and recovery to a traumatic brain injury is not linear. As a child grows in age, improvement to their brain-relationship function does not necessarily grow at the same rate. This is important in approaching each unique child. Similarly, this notion should be considered when understanding inmates with TBI).

194. Cf. BERECIN ET AL., *supra* note 186, at 12 (emphasizing the importance of updating the rehabilitation program in place for TBI students—as it should be with inmates—to the age-appropriate level in accordance with the cognitive and language level).



appropriate way to carryout previous acts and perform new ones, provide consistent routines, ensure the child has acquired new skills, demonstrate to the student how to utilize a schedule in relation to the assignments given, be aware that the child may tire quickly or become easily frustrated or irritable, try to eliminate as many distractions as possible, maintain frequent communication with the child's parent(s)/guardian(s), and remain flexible about these expectations.<sup>195</sup> Injury to the brain is like an accordion, there is a back-and-forth stretch on the brain's elasticity and what it can handle after a traumatic brain injury.<sup>196</sup>

In assisting students with a traumatic brain injury, there is an emphasis on planning for transition and re-entry into the classroom through a continuum of methods and settings.<sup>197</sup> Prisons should approach their TBI inmates in a similar manner.<sup>198</sup> Currently, the prison system is failing TBI patients in preparation to return to society better than how they left it.<sup>199</sup> Too often the difficulties stemming from a previous head injury are not acknowledged, resulting in a cycle of frustration for the inmate suffering with a traumatic brain injury.<sup>200</sup> This kind of previous damage to the brain is often overlooked, and there are detrimental

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195. NAT'L INFO. CTR. FOR CHILD. & YOUTH WITH DISABILITIES, *supra* note 185, at 1 (providing tips for parents and teachers of children with TBI in an educational setting).

196. See, e.g., BARBARA K. LIPSKA & ELAINE MCARDLE, *THE NEUROSCIENTIST WHO LOST HER MIND: MY TALE OF MADNESS AND RECOVERY* 142 (2018) ("In my damaged brain, even the most innocent of stimuli, something as pleasant as a jazz band, is too much. I can't handle it.").

197. See BETTY PIEPER, *TRAUMATIC BRAIN INJURY: WHAT THE TEACHER NEEDS TO KNOW* 1 (1991) (reminding others of this invisible impairment that needs the attention of professionals and members of the community in fostering the greatest support for those with traumatic brain injuries).

198. Cf. NAT'L INFO. CTR. FOR CHILD. & YOUTH WITH DISABILITIES, *supra* note 185, at 5 (stressing the need for individualized plans for those with traumatic brain injuries); cf. DEF. & VETERANS BRAIN INJ. CTR., *BACK TO SCHOOL: GUIDE TO ACADEMIC SUCCESS AFTER TRAUMATIC BRAIN INJURY* (2020), [https://dvbic.dcoe.mil/system/files/resources/4810.1.2.5\\_BacktoSchoolGuide\\_508.pdf](https://dvbic.dcoe.mil/system/files/resources/4810.1.2.5_BacktoSchoolGuide_508.pdf) [<https://perma.cc/2A2K-5FXR>] (detailing the most common issues a TBI patient will experience, especially in an educational environment; a similar method should be implemented in prisons to prepare TBI inmates for re-entering society with their condition).

199. See generally Lindley A. Bassett, *The Constitutionality of Solitary Confinement: Insights from Maslow's Hierarchy of Needs*, 26 HEALTH MATRIX 403, 421–25 (2016) ("[P]risons have a legal duty to provide adequate healthcare to all inmates, prisoners should be assessed for mental illness not only at intake but also periodically, regardless of their assignment to general population or solitary confinement.").

200. BRAIN INJ. ASS'N. OF AM., *THE ESSENTIAL BRAIN INJURY GUIDE* 19–23 (5th ed. 2016) (warning of the harm that can come from TBI in inmates and how it can affect recidivism rates).

outcomes where the inmate cannot best be set up to rehabilitate while serving their time in prison.<sup>201</sup>

Similar to an Individualized Educational Program, a prison faculty member should provide a review of medical records of the TBI for the inmate, detailed descriptions of meetings or interventions with therapists, and a comprehensive assessment of the inmate's progression as well as any other observations made.<sup>202</sup> Since changes are typical among individuals suffering from a traumatic brain injury, these elements should be subject to frequent reassessment and revision among the prison population who have TBI.<sup>203</sup>

Re-entry planning is another way prison populations can support inmates on their transition to the community after they are released.<sup>204</sup> Adaptive equipment and techniques can better equip TBI inmates to monitor their own needs and behavior.<sup>205</sup> Pairing resource rooms and support services with emotional guidance helps put the TBI inmate in the best position possible to combat the deficits of the traumatic brain injury and contribute to society in a more meaningful and positive way.<sup>206</sup>

There are many intervention techniques that have been explored in other aspects of TBI rehabilitation and recovery.<sup>207</sup> It is difficult to distinguish spontaneous and unassisted recovery (occurring on a biological basis for most of the time) from facilitated recovery where recovery stems from programs specifically designed to retrain the brain

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201. See PIEPER, *supra* note 197, at 1 (“Such brain damage may go completely unrecognized until changes in personality, fatigue, irritability, or attention, concentration and memory problems surface.”).

202. See, e.g., *id.* at 6 (suggesting consistency and the importance of re-evaluating progress as the TBI patient aims to improve. Without addressing and returning to specific needs, a TBI patient will not be able to strengthen their ability to interact in a society that may be more complex to them now).

203. *Id.* (“[Reassessment, review, and/or revision . . . [are needed] since changes are typical of TBI.”); see ASPEN REFERENCE GROUP, *supra* note 120, at 2:28 (addressing the importance of frequent reassessment and remaining involved in the patient's progress).

204. See PIEPER, *supra* note 197, at 6 (introducing other options to improve re-entry to situations that may be more difficult for TBI patients following their injury).

205. See *id.* at 12 (drawing attention to the requirement of adaptability in enhancing the resiliency of the TBI patients' brain functions after their head injury).

206. See *id.* at 7 (suggesting ways to set up students with TBI for success when they return from their head injury).

207. See generally ASPEN REFERENCE GROUP, *supra* note 120 (emphasizing how every case of TBI is unique and the rehabilitation and recovery process should be tailored to the specific person).

or structured with general environment conditions in mind.<sup>208</sup> However, there needs to be a focus on the strategic form of recovery for inmates with TBI.<sup>209</sup> TBI patients are a special population of individuals.<sup>210</sup> Similar to the concept where there is no one-size-fits-all treatment for TBI patients, there is no single way to structure a correctional oversight mechanism to encourage transparency and accountability in prison populations.<sup>211</sup> There are many factors related to this issue: the systems already in place in the jurisdiction, the responsibilities assigned to the persons working in these settings, and the cultural and political influences within the jurisdiction.<sup>212</sup>

Thus, it should be approached in a manner similar to the way we approach treatment for TBI patients, where medical professionals should be at the forefront of these individualized assessments in creating a Personal Support Plan for these members of the prison population.<sup>213</sup> This type of plan could also be referred to as “person-centered planning.”<sup>214</sup> While differences abound among TBI patients, one common thread that appears to tie them together involves the frustration

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208. 2 RALPH M. REITAN & DEBORAH WOLFSON, TRAUMATIC BRAIN INJURY: RECOVERY AND REHABILITATION 30 (1988) (elaborating on the unpredictable nature of traumatic brain injuries and their recovery process); *see, e.g.*, LAWRENCE C. KATZ & MANNING RUBIN, KEEP YOUR BRAIN ALIVE: 83 NUEROBIC EXERCISES TO HELP PREVENT MEMORY LOSS AND INCREASE MENTAL FITNESS 12–13 (1999) (highlighting the complexity of the human brain and how mental deficiencies affect the recovery process).

209. *Cf.* BRAIN INJ. ASS’N. OF AM., *supra* note 200, at 19–23 (stressing the detrimental situation that inmates could find themselves in without a recovery plan for TBI).

210. *See id.* (noting unique circumstances surrounding TBI and how it affects patients).

211. MICHIO KAKU, THE FUTURE OF THE MIND 211–12 (2014).

212. *See id.* at 210 (“However, it has generally been accepted that each disorder has its own genetic basis.”).

213. *See, e.g., id.* at 212 (emphasizing the modern medication and treatment options that are abundant within the medical community that could be utilized to help inmates suffering from TBI).

214. *TBI Consumer Report: Person-Centered Planning*, BRAINLINE (Aug. 19, 2008), <https://www.brainline.org/article/tbi-consumer-report-person-centered-planning> [<https://perma.cc/K26S-XNJE>] (“It is sometimes hard for professionals to see the person with TBI as an individual first and as a person-with-a-disability second. It is equally hard for them to see that real help may not focus on disabilities at all, but may focus on the person’s capabilities as the basis for shaping a new life, when the old life is disrupted by brain injury. To counter the difficulties that professionals experience in seeing people with TBI as individuals, methods have been developed over many years that can help them make the switch, so that they learn to place the person with TBI at the center of planning.”). *See generally* ASPEN REFERENCE GROUP, *supra* note 120, at 2:32 (stating the importance of the doctor creating a patient-focused plan for treating TBI).

they experience when others try to fit them to a specific mold.<sup>215</sup> Not surprisingly, this could become even more frustrating for these patients when they are behind bars.<sup>216</sup>

More specifically, when it comes to quality assurance, these medical professionals are needed to assess the quality of care these individuals receive.<sup>217</sup> These medical professionals can also re-evaluate situations where the TBI individual addresses specific complaints regarding their condition to ensure they are receiving appropriate care in his or her prison facilities.<sup>218</sup>

Communication is one of the simplest ways to address the patients' needs and provide the best active plan for those returning to society once they are released.<sup>219</sup> In the educational context, some rehabilitation facilities offer transitional classrooms which model a typical classroom.<sup>220</sup> Others provide educational specialists who work with the local school district and often visit the student's classroom on a consultancy basis once the child returns to school.<sup>221</sup> Similarly, there

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215. See, e.g., ELLIOTT, *supra* note 165, at 70 (identifying personal accounts of frustration many patients experience when recovering from a traumatic brain injury).

216. TBI IN PRISONS AND JAILS, *supra* note 100, at 2 (addressing TBI related problems that affect prisoners).

217. See JOHN W. CASSIDY, MINDSTORMS 128 (2009) ("Physicians still manage the overall status of the patient while nurses form the backbone of the team with their around-the-clock expertise.").

218. See RICHARD C. SENELICK & CATHY E. RYAN, LIVING WITH HEAD INJURY: A GUIDE FOR FAMILIES 153 (3d ed.1991) (expanding on how treating a TBI requires a team approach and is composed of various types of physicians and specialists); cf. David Tulskey & Pamela A. Kisala, *An Overview of the Traumatic Brain Injury—Quality of Life (TBI-QOL) Measurement System*, 34 J. HEAD TRAUMA REHAB. 281, 281 (2019) ("Patient-reported outcomes (PRO) measures are distinct from observer-rated assessments in that they necessarily present information from the patient's own perspective.").

219. See SKYE McDONALD ET AL., COMMUNICATION DISORDERS FOLLOWING TRAUMATIC BRAIN INJURY 279 (Skye McDonald et al. eds., 1st ed. 1999) (promoting the ongoing communication that must occur during and after a TBI patient's rehabilitation and recovery process to ensure they are well taken care of); cf. NATIONAL CENTER FOR EDUCATION STATISTICS, LITERACY BEHIND PRISON WALLS xxii (1994) (emphasizing the scarcity of literacy among the prison population and stressing how beneficial increasing the literacy rate would be to improve inmates' communication skills).

220. See PIEPER, *supra* note 197, at 6–7 (providing a model of a scenario a TBI patient will experience in a social setting that helps prepare the TBI patient to positively react once the event occurs in real life).

221. *Id.* at 6 (recognizing there are ways to allow students with TBI to have a better opportunity to grow comfortable re-entering the classroom environment).

should be workshops, programs, or specialists who can engage in real-life scenarios for prison inmates with TBI—providing opportunities to work through the emotional, physical, and psychological impediments TBI patients face in their daily lives.<sup>222</sup> For example, many anxious-depressive disorders, lack of social tact, and lack of emotional perception or empathy accompany TBI.<sup>223</sup> These, paired with other behaviors such as aggressiveness, loss of inhibition, and intolerance lead to violent acts which can be limiting toward social integration in the community.<sup>224</sup>

Next, specialists may be able to ameliorate some of the developmental or social deficits of a TBI inmate.<sup>225</sup> Through analyzing a TBI patient's "learning potential" or providing simulated scenarios (for example, driving simulators for those who plan to get their driver's license back), specialists can pave the way for TBI inmates to navigate the world outside of cell walls.<sup>226</sup>

Some suggestions for supporting TBI inmates include improving screening at the inmate's arrival to better detect TBI, implementing healthcare solutions, providing specific social and medical follow-ups for

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222. See U.S. DEP'T HEALTH & HUM. SERVS. CTRS. FOR DISEASE CONTROL & PREVENTION, REPORT TO CONGRESS ON TRAUMATIC BRAIN INJURY IN THE UNITED STATES: EPIDEMIOLOGY AND REHABILITATION 43 (2015) [hereinafter REHABILITATION REPORT] ("For persons affected by TBI, vocational rehabilitation (VR) is a treatment option that offers assistance with career planning and achievement of career goals. VR rehabilitation can include assessment, counseling guidance, training and education, and on-the-job training.").

223. E. Durand et al., *History of Traumatic Brain Injury in Prison Populations: A Systematic Review*, 60 ANNALS PHYSICAL & REHAB. MED. 95, 96 (2017) (providing these reactions often occur alongside other behavioral components, adding to the complexity of the recovery process for individuals with traumatic brain injuries).

224. *Id.* (suggesting possible adverse effects following a traumatic brain injury that may worsen if not treated timely and properly).

225. Raj Kumar et al., *Comorbid Conditions Among Adults 50 Years and Older with Traumatic Brain Injury: Examining Associations with Demographics, Healthcare Utilization, Institutionalization, and 1-Year Outcomes*, 34 J. HEAD TRAUMA REHAB. 224, 230 (2019) (suggesting the specialized nature of certain treatment that is tailor-made to the TBI patient augments their ability to function in specific tasks and enhance their social skills as a member of the community).

226. See PIEPER, *supra* note 197, at 6–7 explaining how some students may benefit from different methods of rehabilitation including those that are more hands-on and stimulating to the brain than others); see also TBI IN PRISONS AND JAILS, *supra* note 100, at 2; ("Transition services for released persons returning to communities should accommodate the problems resulting from a TBI."); cf. Erika Hayasaki, *Brains Behind Bars*, NEWSWEEK, July 8, 2016, at 26, 27–33 <https://www.pressreader.com/usa/newsweek/20160708/282093456051067> [<https://perma.cc/927G-NJT6>] ("It's not like you can medicate a brain injury . . . but 'you can help somebody learn how to navigate the world in spite of brain injury.'").

TBI inmates, and offering courses or trainings on TBI for prison staff members and specialists.<sup>227</sup> In addition, once a prisoner is released, there could be a bridge created between rehabilitation and probation services for former inmates with traumatic brain injuries.<sup>228</sup> This would instill opportunities for inmates with TBI to better socially situate themselves and adjust to life outside of prison once they are released.<sup>229</sup> Ongoing, consistent communication with a probation officer after release could establish a more effective way for TBI inmates to deal with the situations outside of prison that are often disrupted by their head injury.<sup>230</sup>

The current classification system of psychiatric illnesses is known as the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).<sup>231</sup> This was published by the American Psychiatric Association (APA), and it is pervasive across many settings to understand the overall and specific nature of mental illnesses by psychiatrists, mental health specialists, and other professionals.<sup>232</sup> The DSM-5 is the authoritative handbook for research and statistical (epidemiological/public health) analyses; in other words, it offers guidance to estimate the incidence (new cases) and prevalence (existing cases) of mental disorders in the general population

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227. See Durand et al., *supra* note 223, at 100 (“These teams could thus be encouraged to think about the best-suited measures to prevent delinquent acting-out.”).

228. *Id.* (“These patients could benefit from the creation of medical-social facilities specialised in the care of TBI patients with behavioural disorders and prisoners at the time of their prison release . . .”).

229. *Id.* (contending that various types of programs aimed at assisting TBI inmates recover will benefit the inmates’ overall functioning and behavior in society).

230. See TBI IN PRISONS AND JAILS, *supra* note 100, at 2 (“Released persons with mental health and/or substance abuse problems should receive case management services and assistance with placement into community treatment programs.”); see also Durand et al., *supra* note 223, at 100 (“[A] link can be established between rehabilitation and probation services and TBI follow-up and rehabilitations services, particularly with community re-entry services.”).

231. See generally AM. PSYCHIATRIC ASS’N., DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS: DSM-5 5–10, 809–17 (5th ed. 2013) (dispelling particular elements of Diagnostic and Statistical Manual of Mental Disorders (DSM-4) through the publication of DSM-5 by the American Psychiatric Association (APA) in 2013. Although DSM-IV is strikingly similar in many ways, this fifth edition includes some radical changes, enhancing the importance of its content. Since the DSM is so influential in professional areas, even the smallest alterations or revisions can affect the lives of millions worldwide).

232. See *id.* at 10 (offering a detailed understanding of the DSM-5 series among its historical backdrop and development over the years).

through the provided template.<sup>233</sup> The most significant aspect of the DSM-5 is that it provides common terminology and criteria to standardize the assessment and diagnosis of mental illnesses in a variety of clinical settings.<sup>234</sup> As reflected in the DSM-5, psychiatric disorders can afflict a gamut of individuals: children and the elderly, men and women, and people of all races, ethnicities, and nationalities.<sup>235</sup>

According to the DSM-5, the degree of the particular Neurocognitive Disorder Due to Traumatic Brain Injury can either be major or mild.<sup>236</sup> The severity of the brain injury helps in determining the impact it will have on the individual's everyday tasks and challenges.<sup>237</sup>

The primary context for discussion of TBI in the DSM-5 is the section on Neurocognitive Disorders, where a basic framework is provided for the retrospective diagnosis of TBI and characterization of the clinical presentation as a Mild or Major Neurocognitive Disorder.<sup>238</sup> The

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233. See, e.g., *id.* at 591, 624–27 (addressing Traumatic Brain Injury in the chapter entitled “Neurocognitive Disorders”).

234. See *id.* at 10 (referring to individual disorder definitions which constitute the operationalized sets of diagnostic criteria that serve as the core of DSM-5 for clinical and research purposes).

235. Cf. *Traumatic Brain Injury: A Guide for Criminal Justice Professionals*, BRAINLINE (Mar. 18, 2010), <https://www.brainline.org/article/traumatic-brain-injury-guide-criminal-justice-professionals> [<https://perma.cc/Q93G-28LA>] (“The most important thing to know about people who have experienced a brain injury is that each person is different (just as each was, prior to injury). Each person has different goals, different capabilities, different challenges, different resources...”). See generally BRAIN INJ. ASS’N. OF AM., *supra* note 200 (examining how various mental disorders can be attributed to all races and cultures).

236. See AM. PSYCHIATRIC ASS’N., *supra* note 231, at 625 (noting that major and mild TBI’s are caused by rapid displacement of the brain within the skull and accompany feelings of disorientation, loss of consciousness, etc.); see also *Wisconsin Traumatic Brain Injury Attorney*, ROZEK L. OFF. S.C., <https://rozeklaw.com/wisconsin-traumatic-brain-injury.html> [<https://perma.cc/V39U-TV5S>] (“There are three degrees of Traumatic Brain Injury; Severe, Moderate and Mild. This classification system was originally based upon the extent and duration of the loss of consciousness of the individual immediately following the injury. Recently however the medical community has discovered that the duration of post-traumatic amnesia is actually a better predictor of outcome than actual loss of consciousness.”).

237. See AM. PSYCHIATRIC ASS’N., *supra* note 231, at 602, 625 (explaining how the Traumatic Brain Injury severity rating for the initial injury assists in distinguishing major and mild neurocognitive disorder through the analysis of cognitive decline from previous level of performance in various domains. These include complex attention, executive function, learning and memory, language, perceptual-motor, and social cognition. After assessing these various domains, it is imperative to observe the TBI patient’s independence and ability within daily life activities like taking medications, paying the bills, or conversing with others).

238. See *id.* at 605, 625 (addressing some of the independent impediments TBI patients encounter in their daily lives and the resulting features supporting diagnosis); cf. RICHARD C.

distinctions between these conditions rest not on the initial severity of the TBI but instead on the severity of posttraumatic cognitive impairments and their effects on everyday function.<sup>239</sup> Many persons in prison are dealing with TBI-related problems, further complicating their management and treatment while they are behind bars.<sup>240</sup>

The DSM-5 outlines the common symptoms related to the diagnosis of major or mild neurocognitive disorder due to TBI stemming from disturbances in emotional function, personality changes, physical symptoms, neurological symptoms, and orthopedic injuries.<sup>241</sup> These symptoms can become elevated in a prison population.<sup>242</sup> Emotional factors such as irritability, frustration, tension, and anxiety could be

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SENELICK, LIVING WITH BRAIN INJURY: A GUIDE FOR PATIENTS AND FAMILIES 9–10 (3d ed. 2013) (helping families adjust to a new way of life and deal with the complicated challenges and difficult issues surrounding “invisible scars” on a daily basis through observation at the Rehabilitation Institute of San Antonio (RIOSA). As one the largest rehabilitation hospitals in South Texas, it has individual programs in head injury, stroke, spinal cord injury, orthopedics, amputee, burn, and general rehabilitation. *HealthSouth RIOSA Selected for “Largest San Antonio Medical Hospitals,”* CISION: PR NEWswire (Mar. 25, 2014), <https://www.prnewswire.com/news-releases/healthsouth-rios-a-selected-for-largest-san-antonio-medical-hospitals-252334301.html> [<https://perma.cc/58MZ-C5XW>]; *Encompass Health Rehabilitation Hospital of San Antonio*, ENCOMPASS HEALTH, <https://www.encompasshealth.com/sanantoniorehab> [<https://perma.cc/9M-V7-S8GC>] (“[F]ormally HealthSouth [RIOSA] . . .”).

239. See Harvey E. Jacobs, *Perspectives on Behavior and Acquired Brain Injury*, 34 NEUROREHABILITATION 597, 597–99 (2014) (bolstering the argument that there were substantial changes within the DSM-5 that altered the process for measuring the severity of TBI’s which is now based on post incident effects rather than initial conditions); see also SENELICK, *supra* note 238, at 6 (“Brain recovery often means extensive rehabilitation—retraining and relearning that requires time, consistency, expertise, and a structured, secure environment.”). See generally AM. PSYCHIATRIC ASS’N., *supra* note 231, at 5 (emphasizing the updates in the DSM-5 are likely to improve the evaluations by mental health professionals for TBI patients).

240. TBI IN PRISONS AND JAILS, *supra* note 100, at 1.

241. See generally AM. PSYCHIATRIC ASS’N., *supra* note 231, at 625 (“Major or mild NCD due to TBI may be accompanied by disturbances in emotional function (e.g., irritability, easy frustration, tension and anxiety, affective lability); personality changes (e.g., disinhibition, apathy, suspiciousness, aggression); physical disturbances (e.g., headache, fatigue, sleep disorders, vertigo or dizziness, tinnitus or hyperacusis, photosensitivity, anosmia, reduced tolerance to psychotropic medications); and, particularly in more severe TBI, neurological symptoms and signs (e.g., seizures, hemiparesis, visual disturbances, cranial nerve deficits) and evidence of orthopedic injuries.”).

242. See TBI IN PRISONS AND JAILS, *supra* note 100, at 2 (developing the idea that prisoners are particularly susceptible to a heightened risk of barriers to overcome because TBI’s interfere with the ability to respond to the daily commands of incarceration).



heightened in the prison setting.<sup>243</sup> In addition, victims of TBI may also experience more intense personality changes including, but not limited to, inhibition, disinhibition, apathy, and aggression.<sup>244</sup> This is not only important to address for the safety of other prisoners, but also to prepare these individuals for life outside of the jail cell walls.<sup>245</sup>

Unfortunately, the DSM-5 does not do justice to the current state of the medical literature, advanced neuroimaging, and autopsy studies when aiming to explain the persistence of long-term symptoms following a Traumatic Brain Injury.<sup>246</sup> The DSM-5 states in cases outside the parameters of Severe Traumatic Brain Injury, the typical course of rehabilitations involves an improvement in the neurocognitive, neurological, and psychiatric signs and symptoms of the individual.<sup>247</sup> While this notion is generally accurate, the DSM-5 fails to explore the multiple ways symptoms do not improve for some TBI patients.<sup>248</sup>

#### VIII. GENERAL MEDICAL CONCERNS IN PRISON POPULATIONS

The routine monitoring of health care services is pertinent to the discussion in providing prisoners with the necessary resources to address their medical concerns and bring them to the attention of the health care

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243. See *id.* at 1 (“Prisoners who have had head injuries may also experience mental health problems such as severe depression and anxiety . . .”); see also AM. PSYCHIATRIC ASS’N., *supra* note 231, at 625 (drawing on the emotional factors influenced by behavioral impairments associated with traumatic brain injury).

244. AM. PSYCHIATRIC ASS’N., *supra* note 231, at 625.

245. See *Purposes of Prisons*, STOP CRIME (2009), <http://www.stoptheaca.org/purpose.html> [<https://perma.cc/CG3G-REJ7>] (“Rehabilitation refers to activities designed to change criminals into law abiding citizens, and may include providing educational courses in prison, teaching job skills and offering counselling with a psychologist or social worker.”).

246. See Rachel Cooper, *Understanding DSM-5: Stasis and Change*, 29 HIST. PSYCHIATRY 49 (2017) (addressing the weaknesses of DSM-5 and serving as a reminder that TBI is not a black and white issue to confront).

247. See AM. PSYCHIATRIC ASS’N., *supra* note 231, at 625–26 (concluding that recovery from a TBI varies, depending not only on the specifics of the injury but also on cofactors such as age, prior history of brain damage, or substance abuse, that may favor or impede recovery).

248. See Cooper, *supra* note 246, at 49 (abandoning a multiaxial approach to diagnosis still lends itself to various issues in understanding the symptoms that intersect with TBI patient’s daily lives. Challenges borne of this approach are likely to be revealed as it is implemented in daily life and everyday practice because the multiaxial approach facilitated a development towards better understanding TBI and other mental health disorders).

staff.<sup>249</sup> As a result, prisoners can receive the appropriate medical care in a timely fashion.<sup>250</sup> These monitors serve to evaluate the sick call procedures, assess sanitary conditions in the medical bays, report on the availability and qualifications of the prison facility's medical care professionals, check on the availability of appropriate equipment, and ensure prisoners receive their prescribed medications and their medical restrictions are respected by the correctional staff.<sup>251</sup> It is important that when this sort of routine monitoring is being conducted by non-medically trained inspectors, the commitment to prisoners' health needs and treatment of conditions with respect remains present in the execution of monitoring tasks.<sup>252</sup>

According to the Federal Bureau of Prisons, professional staff members provide essential medical, dental, and mental health (psychiatric) services in a manner consistent with accepted community standards for a correctional environment.<sup>253</sup> It is unclear, however, what these "accepted community standards" are or what they look like in a prison setting.<sup>254</sup>

The Individuals with Disabilities Education Act (IDEA)<sup>255</sup> specifically identifies disabilities including visual and hearing

249. See Michele Deitch, *Special Populations and the Importance of Prison Oversight*, 37 AM. J. CRIM. L. 291, 301 (2010) (confronting confinement and the shortcomings of American prisons regarding health care).

250. Cf. TBI IN PRISONS AND JAILS, *supra* note 100, at 1 (indicating prisoners need treatment and services to address their TBI related problems); cf. REHABILITATION REPORT, *supra* note 222, at 22 (representing incarcerated persons as a population heavily affected by TBI).

251. Deitch, *supra* note 249, at 301–02.

252. *Id.* (noting the importance of teams conducting inspections of prisons and these vulnerable populations within them to ensure they receive the appropriate treatment and care).

253. *Medical Care*, FED. BUREAU OF PRISONS, [https://www.bop.gov/inmates/custody\\_and\\_care/medical\\_care.jsp](https://www.bop.gov/inmates/custody_and_care/medical_care.jsp) [<https://perma.cc/QY7B-9CKW>] ("Health promotion is emphasized through counseling provided during examinations, education about the effects of medications, infectious disease prevention and education, and chronic care clinics for conditions such as cardiovascular disease, diabetes, and hypertension.").

254. See, e.g., *id.* ("The Bureau uses licensed and credentialed health care providers in its ambulatory care units, which are supported by community consultants and specialists. For inmates with chronic or acute medical conditions, the Bureau operates several medical referral centers providing advanced care."); see also, e.g., REHABILITATION REPORT, *supra* note 222, at 22, 44 ("Methodological concerns remain in the area of conducting and interpreting research on the effectiveness of TBI rehabilitation.").

255. Individuals with Disabilities Education Act, 20 U.S.C. § 1400 (outlining Congress's attempt to remedy pervasive failure on the states' behalf to provide appropriate educational services to handicapped children). Some other laws exist to provide possible avenues to foster better

impairment, autism, and traumatic brain injury.<sup>256</sup> The particular statutory inclusion under 20 U.S.C. § 401 (a)(17) of psychological services, therapeutic recreation, social work services, counseling services, and medical services are relevant to mental health concerns.<sup>257</sup> These definitions and federal regulations supersede any state policies or local regulations concerning these types of related services.<sup>258</sup> Also, the IDEA asserts the extension of protection for children with disabilities, for each child with a disability is entitled to an evaluation which then leads to an Individualized Education Program (IEP).<sup>259</sup>

One of the most significant perspectives for a clinician is that restrictiveness is not a clinical concept.<sup>260</sup> This notion is explored in the context of IDEA as well.<sup>261</sup> It is necessary to understand it takes a multifactored approach to achieve success for a TBI individual.<sup>262</sup> In the educational context, this was illustrated in *Muller v. Committee on Spec.*

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educational placement for children including a number of constitutional arguments and Section 504 of the Rehabilitation Act of 1973 alongside its amendments in 1974.). *Cf.* Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. § 794 (2016) (providing otherwise qualified individuals should not be denied benefits of any program receiving federal assistance solely based on the disability).

256. *See* 20 U.S.C. § 1401(3)(A)(i) (discussing the disabilities included in IDEA including intellectual disabilities, visual and hearing impairment; speech and language impairment; specific learning disability; serious emotional disturbance; autism; traumatic brain injury; and orthopedic impairment); *see also* AM. PSYCHIATRIC ASS'N., *supra* note 231, at 33, 809 (changing the terminology of “mental retardation” to “intellectual disability” and noting a replacement of the insensitive terminology with “intellectual disability” or “intellectual development disorder,” and noting the American Psychiatric Association recognizes these diagnosed deficits in capacity can begin in any developmental period).

257. 20 U.S.C. § 401(a)(17); *see, e.g.*, Individuals with Disabilities Education Act § 1400 (reiterating the need for individualized assistance to treat those with intellectual disabilities).

258. THEODORE P. REMLEY, JR., ET AL., *ETHICAL AND LEGAL ISSUES IN SCHOOL COUNSELING* 406 (2d ed. 2003).

259. Blackwell & Rosetti, *supra* note 18, at 1 (supporting the need for students with disabilities to receive appropriate public education in the least restrictive environment).

260. *See generally* JOHN PRESTON & JAMES JOHNSTON, *CLINICAL PSYCHOPHARMACOLOGY MADE RIDICULOUSLY SIMPLE* (2009) (portraying the multitude of treatment plans available in a clinical setting).

261. *See* 34 C.F.R. § 300.8 (2019) (suggesting the requirements within the parameters of IDEA only provide access to some educational benefits; this contrasts with the ethical goals of most health care professionals, for a clinical intervention only calculated to provide “some” support, rather than the best possible benefit or outcome, would likely be considered abysmal).

262. REMLEY, JR., ET AL., *supra* note 258, at 409.

*Educ.*<sup>263</sup> In this Second Circuit case, there was evidence depicting the child's academic progress in a residential setting where emotional problems were being addressed.<sup>264</sup> However, there are many situations where IDEA mirrors the ambivalence of adults and other mental health professionals who disfavor childhood misconduct attached to the individual's disorder.<sup>265</sup> This is apparent in the opportunity for schools to exclude disruptive students from the statute's protections; more specifically, this is accomplished when a child's problem behavior is simply described as "social maladjustment" rather than externalizing symptoms of serious emotional disturbances.<sup>266</sup> To qualify for a disability of "serious emotional disturbance," the IDEA requires the determination that a child's inability to learn is not explained by mere social maladjustment.<sup>267</sup> TBI patients, too, struggle with more than just social maladjustment.<sup>268</sup> Furthermore, in *Magyar v. Tucson Unified School District*, an Arizona federal court held that disallowing services to disabled students expelled for conduct unrelated to their disability violated the IDEA.<sup>269</sup> Protected liberty interests posed by a specific intervention program or educational setting must be perpetually weighed by clinicians and educators through an analysis of the particular environment against the unique profile of a particular child's strengths, impairments, and the potential risks attached to placement in a particular

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263. *Muller v. Comm. on Spec. Educ. of the E. Islip Union Free Sch. Dist.*, 145 F.3d 95, 97–98 (2d Cir. 1998) (ruling a student qualified as seriously emotionally disturbed notwithstanding a lack of formal diagnosis of her depression).

264. *See id.* at 103–05 (raising an interesting question of whether the requirements for evaluation discovered under the IDEA could be extended or applicable to other areas of intervention or placement for diagnostic purposes).

265. REMLEY, JR., ET AL., *supra* note 258, at 400–01 (identifying a loophole through which schools are capable of excluding disruptive students from the umbrella protection the statute serves to provide).

266. *Id.* at 401–02 (2d ed. 2003).

267. *Id.* at 339 (understanding the consequences of not supporting the individualized needs of the student with a disorder).

268. *See generally* ASPEN REFERENCE GROUP, BRAIN INJURY SURVIVOR AND CAREGIVER EDUCATION MANUAL 2:33, 5:3–5:5 (Sara Nell Di Lima et al. eds., 1996) (stating brain injury, unlike other injuries, often affects social and behavioral responses of an individual as well as normal bodily functions).

269. *See Magyar v. Tucson Unified Sch. Dist.*, 958 F. Supp. 1423, 1439 (D. Ariz. 1997) ("It is apparent that Congress intended all children with disabilities to have an appropriate education, including those with discipline problems."); *see, e.g.*, REMLEY, JR., ET AL., *supra* note 258, at 401 (describing a school policy that does not provide services to disabled students expelled for conduct unrelated to their disability violated the IDEA in the 1977 case).

environment.<sup>270</sup> TBI inmates should be approached in a similar fashion, and prison facilities should seek to coordinate a system of services recognizing the responsibility to support the mental health needs of TBI inmates.<sup>271</sup>

## IX. CRACK THE EGG

Separating the various problems surrounding behaviors or symptoms of TBI can be a lot like trying to unscramble the egg.<sup>272</sup> It is easy to become blinded by the convoluted chicken and the egg conundrum.<sup>273</sup> What came first: the criminal activity or the disabling condition which includes this type of behavior that could be deemed criminal?<sup>274</sup>

When it comes to the study of the human brain, today's neurologists and neuroscientists are Christopher Columbus in lab coats, for they are constantly encountering uncharted territory.<sup>275</sup> Their research brings them right to the great unknown, discovering where no one else has been—both in knowledge and understanding of TBI.<sup>276</sup> Hundreds of millions of dollars in federal, foundation, and corporate funding have been dedicated to advancing our collective understanding of brain function.<sup>277</sup> In April 2013, President Barack Obama launched a project

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270. REMLEY, JR., ET AL., *supra* note 258, at 405.

271. *See generally* TBI IN PRISONS AND JAILS, *supra* note 100, at 1–2 (describing the need to increase health screenings, evaluations, and treatment for inmates with TBI in jails and prisons).

272. *Which Came First: The Chicken or the Egg?*, AUSTRALIAN ACADEMY SCI., <https://www.science.org.au/curious/earth-environment/which-came-first-chicken-or-egg> [<https://perma.cc/AT5Q-LT7T>] (last updated Mar. 29, 2018); *cf.* ASPEN REFERENCE GROUP, *supra* note 268, at 5:3–5:5 (detailing reactive responses a person with a TBI may face).

273. AUSTRALIAN ACADEMY SCI., *supra* note 272.

274. *Cf.* HEALY, *supra* note 189, at 15 (delineating common disabilities with a TBI include problems such as cognition (including reasoning), sensory processing, communication, and behavior or mental health).

275. *See, e.g., id.* at 21–25 (acknowledging the mystery surrounding interior space functioning of the brain, including no available surgery options to repair circuitry in and out of the brain).

276. *Id.*

277. *See* Christopher L. Martin & Miyoung Chun, *The BRAIN Initiative: Building, Strengthening, and Sustaining*, 93 NEURON 570, 571 (2016) (stating since 2013, \$1.36 billion in funding has been allocated to understanding brain functioning by federal, state, and private sectors); *see also* Karl Zinsmeister, *The Power of Science Philanthropy: Why Private Funding Is so Important to the Experimenting that Makes Us Smarter, Healthier, and Richer*, PHILANTHROPY (2016), <https://www.philanthropyroundtable.org/philanthropy-magazine/article/the-power-of-science-philanthropy> [<https://perma.cc/B7YT-LJGT>] (expressing the Brain & Behavior Research

called the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative.<sup>278</sup> In addition to better understanding TBI, greater understanding of the brain can lead to enhanced knowledge of Parkinson's, Alzheimer's, epilepsy, PTSD, schizophrenia, depression, and other brain disorders and neurologic diseases.<sup>279</sup> As a result, better treatments can be provided to attenuate or ameliorate the present conditions of these maladies.<sup>280</sup> Through these discoveries, it is important to analyze and prioritize the tremendous advances in humanistic understanding this level of research can yield.<sup>281</sup> However, Dr. Walter Koroshetz of the National Institute of Neurological Disorders and Stroke (NINDS) and leader in the BRAIN Initiative addresses the predicaments associated with this level of research concerning TBI.<sup>282</sup> He mentions, "[t]here is a lot of enthusiasm but also

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Foundation has awarded \$346 million to 4,000 scientists to increase the understanding of brain functioning and improve treatments).

278. See ABOUT THE BRAIN INITIATIVE, THE WHITE HOUSE, <https://obamawhitehouse.archives.gov/BRAIN> [<https://perma.cc/RB95-QBJ2>] (announcing the President's "launch of the BRAIN (Brain Research through Advancing Innovative Neurotechnologies) Initiative, which is a bold initiative revolutionizing our understanding of the human brain.").

279. See NAT'L INST. OF HEALTH, INFORMATION ABOUT MENTAL ILLNESS AND THE BRAIN 6, 11 (2007) (pointing out that scientists want to learn about the chemical or structural changes occurring in the brain to develop better treatments or find a cure); see also *What are the Potential Effects of TBI?*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/traumaticbraininjury/outcomes.html> [<https://perma.cc/5H3H-RHRU>] (last updated Feb 25, 2019) (describing how a TBI can also cause epilepsy and increase the risk for conditions such as Alzheimer's disease, Parkinson's disease, and other brain disorders). See generally HEALY, *supra* note 189, at 153 (recognizing the need for increased understanding of brain functions regarding traumatic collisions).

280. See NAT'L INST. OF HEALTH, *supra* note 279, at 11 (finding causes of a mental illness can be used to develop new treatments or a cure).

281. See HEALY, *supra* note 189, at 152–53 (proclaiming that unveiling the human brain is complex but abundant with promise in helping scientists better understand brain related trauma).

282. See *id.* at 24 ("This research involves the studies in the laboratory and in clinical settings to better understand TBI and the biological mechanisms underlying damage to the brain."); see also *NINDS Staff Directory: Walter J. Koroshetz, M.D.*, NAT'L INST. OF NEUROLOGICAL DISORDERS & STROKE, NIH, <https://www.ninds.nih.gov/About-NINDS/Who-We-Are/staff/Walter-J-Koroshetz> [<https://perma.cc/T6RR-TAQ4>] ("[Dr. Walter Koroshetz] has held leadership roles in a number of NIH and NINDS programs including the NIH's BRAIN Initiative, the Traumatic Brain Injury Center collaborative effort between the NIH intramural program and the Uniformed Health Services University, and the multi-year work to develop and establish the NIH Office of Emergency Care Research to coordinate NIH emergency care research and research training.").

a lot of frustration about getting the right tools.”<sup>283</sup> There is a war on these diseases and you want to go into it with the most powerful weapons.<sup>284</sup> We must move past the bow-and-arrow stage and fight a much deeper issue.<sup>285</sup>

### CONCLUSION

In *Head Cases: Stories of Brain Injury and Its Aftermath* by Michael Paul Mason, the unpredictability of head trauma is illustrated through the analogy where brain injuries cannot be managed any more than the way a thunderstorm is managed.<sup>286</sup> When it rains, it pours.<sup>287</sup> In fact, one TBI survivor explains the real risk after a brain injury where one’s own

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283. See Lauran Neergaard, *Finding Unseen Damage of Traumatic Brain Injury*, KATU (Mar. 1, 2012), <https://katu.com/news/health/finding-unseen-damage-of-traumatic-brain-injury-11-19-2015> [<https://perma.cc/6SDG-B6KX>] (reporting about 1.7 million people suffer a traumatic brain injury and the inability to detect underlying damage is increasingly frustrating for both patients and doctors, such as when CT scans indicate nothing is wrong).

284. See, e.g., *NIH: Investing in a Healthier Future*, Subcomm. on Lab., Health & Hum. Serv., & Educ., & Related Agencies, Comm. on Appropriations, 114th Cong. 26 (2015) (“The problem is that we do not have the technologies to modulate [brain circuitry activity] except in a very unsophisticated manner. . . . You can just imagine how these new precision technologies can completely change how we can basically normalize or cause compensation in brain circuits for patients’ neurologic deficits.”); see also, e.g., Neergaard, *supra* note 283 (detailing Daniel Stunkard’s experience as a TBI patient and a new tool in TBI research that assists in high-definition fiber tracking, which will assist the military in studying whether a souped-up kind of CT scan could help spot TBI by measuring changes in blood flow inside the brain).

285. Cf. Kristin Wilmoth & Michael McCrea, *What Do We Learn from Studying Traumatic Brain Injury?*, FRONTIERS FOR YOUNG MINDS (Jan. 17, 2020), <https://kids.frontiersin.org/article/10.3389/frym.2019.00158> [<https://perma.cc/L3HQ-8KTR>] (“We want to understand exactly what happens to the brain after TBI so that we can develop better life-saving measures and prevent some of the serious consequences of TBI. Another important research focus is accurately diagnosing TBI, because a quick and accurate diagnosis allows doctors to act fast to help the injured person. Another goal of TBI research is understanding which kinds of treatments are best, and which things might help or harm a person during recovery.”).

286. MICHAEL PAUL MASON, *HEAD CASES: STORIES OF BRAIN INJURY AND ITS AFTERMATH* 4–5 (2008) (Illustrating that like a thunderstorm, there can be many preventative measures in place to remedy the consequences of a TBI or brain related injury, but entirely preventing one is highly unlikely); cf. HEALY, *supra* note 189, at 17 (arguing once a person endures a traumatic injury, they are at risk of greater, slow-developing problems that could potentially become fatal).

287. Olwen Reina, *Traumatic Brain Injury*, TEMPO BIOSCIENCE (Jan. 13, 2017), <https://www.tempobioscience.com/blog/?p=510> [<https://perma.cc/BN8G-K29C>]; see MASON, *supra* note 286, at 4–5 (writing there is some irony in the term ‘brain injury case manager’ because brain related injuries frequently lead to disastrous and unpredictable outcomes; with a TBI comes acceptance but rarely a complete solution).

sense of self is constantly changing and mutable.<sup>288</sup> The result to the injured can become catastrophic, while the thoughts can become terminal.<sup>289</sup> Yet just as with all that is meaningful and valuable in life, practice, hard work, repetition, and persistence makes progress.<sup>290</sup> No, it does not make perfect; it makes progress.<sup>291</sup> It seems only fitting to end this document in the same way the Constitution of the United States starts off: “We the People of the United States, in Order to form a more perfect Union . . . .”<sup>292</sup> The phrase “more perfect” exemplifies our continuous desire as a nation to do something better than what we have in place. The history of the United States reveals there were many problems.<sup>293</sup> More specifically, it is not that there are no problems; rather, there are mechanisms intended to fix them.<sup>294</sup>

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288. See, e.g., ALICE J. Wexler, ART AND DISABILITY: THE SOCIAL AND POLITICAL STRUGGLES FACING EDUCATION 153 (2009) (“Miethner could not recall what caused his accident; one moment he was standing, the next he was on the floor paralyzed from the neck down. This example might be catalogued under ‘freak accident,’ but the trouble is that we are all vulnerable to the freak accident, unable to take precautions however slight the possibility might be. When rehabilitation is no longer viable six months to a year after injury, the only alternative is the institution, usually a nursing home, which does not alleviate the disruption of loss but, rather, exacerbates it. As a result, TBI survivors find themselves bereft of their families, communities, and their roles in life.”).

289. See generally *id.* at 154 (explaining individuals who suffer a TBI may subsequently lose crucial skills like cognitive growth and impulse control and many times may develop the loss of normative behaviors).

290. See *id.* (“Intention and emotional drive must be stimulated in order for the complex and interdependent function of the brain to be recovered. Brain injury affects cognitive, emotional, and physical centers and results in disorientation and disconnection with self and the world. The process of recovery is, therefore, a redefinition of self.”).

291. See, e.g., *id.* (identifying how brain injuries can result in someone being detached from their place in the world and the recovery process demands a redefinition and rediscovery of one’s past, present, and future).

292. U.S. CONST. pmb.

293. Compare Linda Darling-Hammond, *Unequal Opportunity: Race and Education*, BROOKINGS (Mar. 1, 1998), <https://www.brookings.edu/articles/unequal-opportunity-race-and-education/> [<https://perma.cc/VPU7-H3HQ>] (“[L]ow-income and minority students receive fewer instructional resources than others. And tracking systems exacerbate these inequalities by segregating many low-income and minority students within schools.”), with *Traumatic Brain Injury: Fact Sheets and Policy Brief*, CTR. TBI, <https://www.center-tbi.eu/files/news/21571f81-20b8-4860-a3dd-1f6e27d02b3d.pdf> [<https://perma.cc/G985-CNQ3>] (discussing how there it is inappropriate to have a one size fits all approach).

294. *Preamble: Historical Background*, CONSTITUTION ANNOTATED, [https://constitution.congress.gov/browse/essay/pre-1-2/ALDE\\_00001234/](https://constitution.congress.gov/browse/essay/pre-1-2/ALDE_00001234/) [<https://perma.cc/7JHR-WHRN>] (“Articulating what would ultimately become the Preamble’s underlying rationale, Randolph instead argued that any prefatory text to the Constitution should be limited to explaining why the



It is necessary to realize the true human value of others—even those that seem damaged or defeated by a condition—in order to provide the most suitable rehabilitation for that individual, and thus, a greater society for all.<sup>295</sup> May we honor, nurture, and cherish what writer Kurt Vonnegut refers to as the “crowning glory of evolution”—the human brain.<sup>296</sup> May we work diligently, honestly, and fervently towards the work that remains.

Unlike a brain injury which happens suddenly, the steps to improve conditions for incarcerated individuals with TBI will take time.<sup>297</sup> The plan needs to be well thought out and align with the overall purpose of incarceration.<sup>298</sup> A traumatic brain injury leaves a person significantly changed after such injury.<sup>299</sup> Similarly, significant changes need to be implemented to the current prison population suffering from traumatic brain injury.<sup>300</sup> While a causal connection between TBI and criminality remains to be uncertain, it is clear that a large portion of prisoners are

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government under the Articles of Confederation was insufficient and why the establishment of a supreme legislative[, executive[, and judiciary was necessary.”); see Katherine Harmon, *Brain Injury Rate 7 Times Greater Among U.S. Prisoners*, SCI. AM. (Feb. 4, 2012), <https://www.scientificamerican.com/article/traumatic-brain-injury-prison/> [<https://perma.cc/TC2D-UC2E>] (“If we don’t help individuals specifically who have significant brain injuries that have impacted their criminal behavior, then we’re missing an opportunity to short-circuit a cycle . . .”).

295. Cf. MASON, *supra* note 286, at 10 (“The goal is to get a survivor unstuck, to move them from a stagnant setting into a life of greater independence. If the severity of their injury warrants it, their best chances for recovery lie in brain injury rehabilitation . . .”).

296. HEALY, *supra* note 189, at 153.

297. See BRAIN INJ. ASS’N. OF AM., *supra* note 200, at 11 (acknowledging the vast majority of individuals incarcerated in U.S. prisons have not been “recognized, diagnosed, or treated” for having TBI); see also Harmon, *supra* note 294 (“One of the big challenges in addressing TBI in prison populations, and beyond, is that it is not as easy to diagnose as a broken bone or a blood-borne illness.”).

298. See REHABILITATION REPORT, *supra* note 222, at 21 (emphasizing rehabilitation for TBI should align with both the individual’s needs and the correctional program); see also Hayasaki, *supra* note 226, at 26, 27–33 (“The presence of traumatic brain injuries should affect the way we treat incarcerated offenders, . . . It may influence the best ways to rehabilitate them . . .”).

299. See ELLIOTT, *supra* note 165, at 10 (“It is not possible for us to fully understand the enormity of the changes that take place when someone suffers a traumatic brain injury . . .”); see also REHABILITATION REPORT, *supra* note 222, at 3, 18 (describing the various health effects associated with TBI which may alter an individual’s quality of life).

300. See REHABILITATION REPORT, *supra* note 222, at 6–25 (presenting CDC recommendations concerning sub-populations, such as incarcerated individuals, that require further examination to determine trends and effects of TBI and the need to provide effective rehabilitation); see also, e.g., Hayasaki, *supra* note 226, at 26, 27–33 (referencing the growing awareness within the criminal justice system to address individuals with TBI by implementing rehabilitation efforts).

suffering from TBI.<sup>301</sup> To establish what is needed for these individuals, it is essential to begin with an evaluation of each individual with a TBI in this setting.<sup>302</sup> TBI inmates cannot be classified or grouped together in the same manner we look at a litter of puppies.<sup>303</sup> Differences abound, and there is a broad spectrum of symptoms, behaviors, and personalities attached to each person with a TBI.<sup>304</sup> TBI patients already experience constraints on their brains; they do not need additional constraints in the set of diagnostic criteria it contains.<sup>305</sup> Thus, I believe these types of inmates should follow a similar protocol to that of a Personal Support Plan in group homes or Individualized Education Plan a student with disabilities would use in an educational context.<sup>306</sup> Otherwise, the TBI inmates may struggle to succumb to the restrictions or guidelines set behind prison walls.<sup>307</sup> It is important that these individuals are able to

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301. *E.g.* REHABILITATION REPORT, *supra* note 222, at 22 (“It is estimated that the prevalence of TBI in imprisoned populations is 60.3%.”).

302. TBI IN PRISONS AND JAILS, *supra* note 100, at 2; *cf.* REHABILITATION REPORT, *supra* note 222, at 31 (emphasizing how TBIs need to be evaluated on an individual level for a myriad of factors influencing recovery).

303. Hayasaki, *supra* note 226, at 26, 27–33 (“‘I spent a lot of time not caring about the brain,’ she says, referring to her seven years as a corrections officer. ‘It was very black and white. Overall, the philosophy was ‘nail ’em and jail ’em.’” When Blackman changed jobs, her perspective began to evolve. Instead of ‘trying to put the hammer down and hope that they change,’ she began ‘looking at the deeper reasons why they act the way they act and thinking about how can we help them.’”).

304. *See, e.g.*, CONNIE GOLDSMITH, TRAUMATIC BRAIN INJURY: FROM CONCUSSION TO COMA 22 (2014) (“People who survive . . . brain injuries are likely to be left with personality changes or problems with vision, thinking, memory, thinking, or moving. Each brain injury is different, depending on which part of the brain . . . [is] injured.”); *see also, e.g.*, ASPEN REFERENCE GROUP, *supra* note 268, at 2:29–2:31 (summarizing the plethora of effects of TBI from cognitive to physical changes).

305. *See* JOSEPH B. HEALY, TRAUMATIC BRAIN INJURY HANDBOOK: HOW A NEAR-DEATH FALL LED ME TO DISCOVER A NEW CONSCIOUSNESS 18 (2016) (describing the dangers of placing too much confidence in diagnostic tabulated results and criteria when assessing individual brain injuries).

306. *See, e.g.*, AGENCY FOR PERSONS WITH DISABILITIES, PERSON-CENTERED SUPPORT PLAN INSTRUCTION MANUAL (2018) (providing examples of items that can be included in a person-centered plan to address an individual’s needs). *See generally* *An In-depth Guide to Individualized Education Plans*, LEARNING AGENCY INSIGHTS (July 26, 2020), <https://www.the-learning-agency.com/insights/an-in-depth-guide-to-individualized-education-plans-ieps-advice-for-navigating-the-us-special-education-system> [<https://perma.cc/Q8AK-Y2LN>] (outlining the steps required for creating a Personal Support Plan under the Individuals with Disabilities Education Act to ensure each individual’s specific needs are met).

307. *Cf.* Hayasaki, *supra* note 226, at 26, 27–33 (“The U.S. legal system doesn’t account for the intricacies of a human’s dorsolateral prefrontal cortex, which contributes to mood, behavior,

rehabilitate in an environment that will prepare them to live out their daily functions in the world outside the cell walls.<sup>308</sup> These individuals may be barred by their brains, but we must not bar the possibility to help these inmates with a TBI.<sup>309</sup>

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memory, decisions, impulses and thoughts, and, when injured, can swing a person's personality toward anger, depression or aggression.”).

308. See BRAIN INJ. ASS'N. OF AM., *supra* note 200, at 19 (recognizing that not diagnosing or treating inmates with TBI is a contributing factor of recidivism for it is challenging for “former offenders to lead a productive life and not commit additional crimes.”).

309. Cf. Hayasaki, *supra* note 226, at 26, 27–33 (noting “[n]inety-six percent of all inmates screened had suffered moderate or severe brain trauma” and acknowledging we can have a part in helping individuals with TBI navigate the world).